



#4

# SEQUENCE LISTING

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<120> HUMAN OLFACTORY RECEPTORS AND GENES ENCODING SAME

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<140> 09/804,291

<141> 2001-03-13

<150> 60/188,914

<151> 2000-03-13

<150> 60/192,033

<151> 2000-03-24

<150> 60/198,474

<151> 2000-04-14

<150> 60/199,335

<151> 2000-04-24

<150> 60/207,702

<151> 2000-05-26

<150> 60/213,849

<151> 2000-06-23

<150> 60/226,534

<151> 2000-08-16

<150> 60/230,732

<151> 2000-09-07

<150> 60/266,862

<151> 2001-02-07

<160> 529

<170> PatentIn Ver. 2.1

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<213> Homo sapiens

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Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys Met Leu Val	85	90	95
Asn Ile Gln Thr Lys Ser Gln Ser Ile Ser Tyr Glu Ser Cys Ile Thr	100	105	110
Gln Met Tyr Phe Ser Ile Val Phe Val Val Ile Asp Asn Leu Leu Leu	115	120	125
Gly Thr Met Ala Tyr Asp His Phe Val Ala Ile Cys His Pro Leu Asn	130	135	140
Tyr Thr Ile Leu Met Arg Pro Arg Phe Gly Ile Leu Leu Thr Val Ile	145	150	155
Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr Leu Leu Leu	165	170	175
Ile Gln Leu Leu Phe Cys Asn His Asn Thr Leu Pro His Phe Phe Cys	180	185	190
Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr Leu Ile Asn	195	200	205
Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile Phe Pro Phe	210	215	220
Thr Leu Ser Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala Val Leu Arg	225	230	235
Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser	245	250	255
His Leu Thr Val Val Leu Leu Phe Tyr Gly Thr Ile Val Gly Val Tyr	260	265	270
Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys Ile Gly Ala	275	280	285
Val Leu Phe Thr Val Val Thr Pro Met Ile Asn Pro Phe Ile Tyr Ser	290	295	300
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Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile
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Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe
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Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr
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Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr
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Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr
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Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile
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Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala
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Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile
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Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser
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Asp Ile Leu Ile Pro His Leu Leu Leu Phe Ser Phe Ala Thr Phe Asn
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Glu Met Cys Thr Leu Leu Ile Ile Leu Thr Ser Tyr Val Phe Ile Phe
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 Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg Gln Thr  
 260 265 270  
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Asn Pro Met Leu Asn  
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 Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60



Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro  
 65 70 75 80  
 Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu  
 85 90 95  
 Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu  
 100 105 110  
 Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
 115 120 125  
 Asn Pro Leu Leu Tyr Thr Val Asp Met Ser Gln Lys Leu Cys Val Leu  
 130 135 140  
 Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu  
 145 150 155 160  
 Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn  
 165 170 175  
 His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp  
 180 185 190  
 Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu  
 195 200 205  
 Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val  
 210 215 220  
 Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser  
 225 230 235 240  
 Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile  
 245 250 255  
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 260 265 270  
 Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
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 ctagggaata ttgggttgat tgtgatcatc aaaatcaacc ccaaactgca taccatg 180  
 tactttttcc tcagccaact ctcttttggt gattttctgct attcctccat cattgctccc 240  
 aagatgttgg tgaaccttgt tgtcaaagac agaaccattt catttttagg atgcgtagta 300

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 Tyr Val Ala Thr Val Leu Glu Asn Leu Leu Ile Val Val Thr Ile Ile  
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 Thr Ser Gln Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Thr Phe Leu  
 50 55 60  
 Ser Leu Leu Asp Val Met Phe Ser Ser Val Val Ala Pro Lys Val Ile  
 65 70 75 80  
 Val Asp Thr Leu Ser Lys Ser Thr Thr Ile Ser Leu Lys Gly Cys Leu  
 85 90 95  
 Thr Gln Leu Phe Val Glu His Phe Phe Gly Gly Val Gly Ile Ile Leu  
 100 105 110  
 Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 His Tyr Thr Ile Ile Met Ser Pro Arg Val Cys Cys Leu Met Val Gly  
 130 135 140  
 Gly Ala Trp Val Gly Gly Phe Met His Ala Met Ile Gln Leu Leu Phe  
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 Met Tyr Gln Ile Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Ile  
 165 170 175  
 Cys Asp Leu Phe Gln Leu Leu Thr Leu Ala Cys Thr Asp Thr His Ile  
 180 185 190  
 Leu Gly Leu Leu Val Thr Leu Asn Ser Gly Met Met Cys Val Ala Ile  
 195 200 205  
 Phe Leu Ile Leu Ile Ala Ser Tyr Thr Val Ile Leu Cys Ser Leu Lys  
 210 215 220

Ser Tyr Ser Ser Lys Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser  
225 230 235 240

His Leu Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr  
245 250 255

Met Arg Pro Val Val Thr His Pro Ile Asp Lys Ala Met Ala Val Ser  
260 265 270

Asp Ser Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
275 280 285

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His Leu Ser Ser Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80  
 Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly  
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 Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Val Val Thr Glu Val  
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 Cys Leu Ala Leu Arg Ile Pro Phe Tyr Arg Ser Asn Val Ile Asn His  
 165 170 175  
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 195 200 205  
 Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr  
 210 215 220  
 Ile Leu Lys Met Gly Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ala Ile Thr Val Phe His Gly Thr Val Leu  
 245 250 255  
 Ser Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Ala Asp Lys  
 260 265 270  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Ser Val  
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35 40 45  
Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe  
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Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
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Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
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Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
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145 150 155 160  
Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
165 170 175  
Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
180 185 190  
Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
195 200 205  
Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
210 215 220  
Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe

225					230					235					240				
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Lys	Leu	Val	Val	Thr	Lys	Leu	Ile	Tyr	His										
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65	70	75	80
Leu Ile Ile Pro Ala Ile Tyr Ser Asp Pro Arg Leu His Thr Pro Met	85	90	95
Tyr Phe Phe Leu Ser Asn Leu Ser Phe Met Asp Ile Cys Phe Thr Thr	100	105	110
Val Ile Val Pro Lys Met Leu Val Asn Phe Leu Ser Glu Thr Lys Val	115	120	125
Ile Ser Tyr Val Gly Cys Leu Ala Gln Met Tyr Phe Phe Met Ala Phe	130	135	140
Gly Asn Thr Asp Ser Tyr Leu Leu Ala Ser Met Ala Ile Asp Arg Leu	145	150	155
Val Ala Ile Cys Asn Pro Leu His Tyr Asp Val Val Met Lys Pro Arg	165	170	175
His Cys Leu Leu Met Leu Leu Gly Ser Cys Ser Ile Ser His Leu His	180	185	190
Ser Leu Phe Arg Val Leu Leu Met Ser Arg Leu Ser Phe Cys Ala Ser	195	200	205
His Ile Ile Lys His Phe Phe Cys Asp Thr Gln Pro Val Leu Lys Leu	210	215	220
Ser Cys Ser Asp Thr Ser Ser Ser Gln Met Val Val Met Thr Glu Thr	225	230	235
Leu Ala Val Ile Val Thr Pro Phe Leu Cys Ile Ile Phe Ser Tyr Leu	245	250	255
Arg Ile Met Val Thr Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Trp	260	265	270
Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Ala Val Ala Leu Phe	275	280	285
Tyr Gly Ser Ile Ile Tyr Val Tyr Phe Arg Pro Leu Ser Met Tyr Ser	290	295	300
Val Val Arg Asp Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro	305	310	315
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Gly Leu Lys Lys Leu Gln Asp Arg Ile Tyr Arg	340	345	

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<210> 15  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 15

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			20					25					30		
Gly	Ile	Tyr	Val	Val	Thr	Val	Val	Gly	Asn	Leu	Gly	Met	Ile	Phe	Leu
			35				40					45			
Ile	Ala	Leu	Ser	Ser	Gln	Leu	Tyr	Pro	Pro	Val	Tyr	Tyr	Phe	Leu	Ser
		50				55					60				
His	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Ser	Val	Ile	Thr	Pro	Lys
	65				70					75					80
Met	Leu	Val	Asn	Phe	Val	Pro	Glu	Glu	Asn	Ile	Ile	Ser	Phe	Leu	Glu
				85					90					95	
Cys	Ile	Thr	Gln	Leu	Tyr	Phe	Phe	Leu	Ile	Phe	Val	Ile	Ala	Glu	Gly
			100					105					110		
Tyr	Leu	Leu	Thr	Ala	Met	Glu	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Arg
		115					120					125			
Pro	Leu	Leu	Tyr	Asn	Ile	Val	Met	Ser	His	Arg	Val	Cys	Ser	Ile	Met
	130					135						140			
Met	Ala	Val	Val	Tyr	Ser	Leu	Gly	Phe	Leu	Trp	Ala	Thr	Val	His	Thr
	145				150					155				160	
Thr	Arg	Met	Ser	Val	Leu	Ser	Phe	Cys	Arg	Ser	His	Thr	Val	Ser	His
				165					170					175	
Tyr	Phe	Cys	Asp	Ile	Leu	Pro	Leu	Leu	Thr	Leu	Ser	Cys	Ser	Ser	Thr
			180					185					190		



His Ile Asn Glu Ile Leu Leu Phe Ile Ile Gly Gly Val Asn Thr Leu  
 195 200 205  
 Ala Thr Thr Leu Ala Val Leu Ile Ser Tyr Ala Phe Ile Phe Ser Ser  
 210 215 220  
 Ile Leu Gly Ile His Ser Thr Glu Gly Gln Ser Lys Ala Phe Gly Thr  
 225 230 235 240  
 Cys Ser Ser His Leu Leu Ala Val Gly Ile Phe Phe Gly Ser Ile Thr  
 245 250 255  
 Phe Met Tyr Phe Lys Pro Pro Ser Ser Thr Thr Met Glu Lys Glu Lys  
 260 265 270  
 Val Ser Ser Val Phe Tyr Ile Thr Ile Ile Pro Met Leu Asn Pro Leu  
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<210> 16  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 16  
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<210> 17  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 17  
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 20 25 30

Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Thr Leu  
 35 40 45  
 Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
 50 55 60  
 Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
 65 70 75 80  
 Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn Val Gly  
 85 90 95  
 Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
 100 105 110  
 Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
 130 135 140  
 Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr  
 145 150 155 160  
 Gly Cys Met Phe Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
 165 170 175  
 Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
 180 185 190  
 Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn Ile Thr  
 195 200 205  
 Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser  
 210 215 220  
 Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
 245 250 255  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
 260 265 270  
 Phe Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
 290 295 300  
 Ile Lys Ile Gln Arg Arg Asn Ile Phe  
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<210> 18  
 <211> 942  
 <212> DNA  
 <213> Homo sapiens

<400> 18

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tggtctatgc tcaacttttgc tgcttacata atgggattgg ctggagccac ggcccacacc 480
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<210> 19  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

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 Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu  
 35 40 45  
 Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
 50 55 60  
 Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
 65 70 75 80  
 Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly  
 85 90 95  
 Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
 100 105 110  
 Tyr Ile Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
 130 135 140  
 Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr  
 145 150 155 160  
 Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
 165 170 175  
 Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
 180 185 190  
 Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met

195	200	205
Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser		
210	215	220
Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr		
225	230	235
Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala		
245	250	255
Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val		
260	265	270
Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile		
275	280	285
Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu		
290	295	300
Ile Lys Ile Gln Arg Arg Asn Ile Phe		
305	310	

<210> 20  
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 <212> DNA  
 <213> Homo sapiens

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 ggggtgcatg ttagactcac cttctgcagt gctaataatca tcaaccatta cttgtgtgac 540  
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<210> 21  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
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 20 25 30  
 Gly Ile Tyr Val Phe Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu

35					40					45						
Ile	Gly	Ile	Asn	Pro	Ser	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Phe	
50					55					60						
Asn	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Cys	Val	Phe	Thr	Pro	Lys	
65					70					75					80	
Met	Leu	Asn	Asp	Phe	Val	Ser	Glu	Ser	Ile	Ile	Ser	Tyr	Val	Gly	Cys	
85					90					95						
Met	Thr	Gln	Leu	Phe	Phe	Phe	Cys	Phe	Phe	Val	Asn	Ser	Glu	Cys	Tyr	
100					105					110						
Val	Leu	Val	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	Pro	
115					120					125						
Leu	Leu	Tyr	Met	Val	Thr	Met	Ser	Pro	Arg	Val	Cys	Phe	Leu	Leu	Met	
130					135					140						
Phe	Gly	Ser	Tyr	Val	Val	Gly	Phe	Ala	Gly	Ala	Met	Ala	His	Thr	Gly	
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Ser	Met	Leu	Arg	Leu	Thr	Phe	Cys	Asp	Ser	Asn	Val	Ile	Asp	His	Tyr	
165					170					175						
Leu	Cys	Asp	Val	Leu	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Thr	Ser	Thr	His	
180					185					190						
Val	Ser	Glu	Leu	Val	Phe	Phe	Ile	Val	Val	Gly	Val	Ile	Thr	Met	Leu	
195					200					205						
Ser	Ser	Ile	Ser	Ile	Val	Ile	Ser	Tyr	Ala	Leu	Ile	Leu	Ser	Asn	Ile	
210					215					220						
Leu	Cys	Ile	Pro	Ser	Ala	Glu	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr	Trp	
225					230					235					240	
Gly	Ser	His	Ile	Ile	Ala	Val	Ala	Leu	Phe	Phe	Gly	Ser	Gly	Thr	Phe	
245					250					255						
Thr	Tyr	Leu	Thr	Thr	Ser	Phe	Pro	Gly	Ser	Met	Asn	His	Gly	Arg	Phe	
260					265					270						
Ala	Ser	Val	Phe	Tyr	Thr	Asn	Val	Val	Pro	Met	Leu	Asn	Pro	Ser	Ile	
275					280					285						
Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Asp	Lys	Leu	Ala	Leu	Gly	Lys	Thr	Leu	
290					295					300						
Lys	Arg	Val	Leu	Phe												
305																

<210> 22

<211> 930

<212> DNA

<213> Homo sapiens

<400> 22

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ggcaaaaccc tgaagagagt gctcttctaa 930

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<210> 23  
 <211> 360  
 <212> PRT  
 <213> Homo sapiens

<400> 23

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Asp	Val	Gly	Arg	Ile	Cys	Tyr	Ser	Val	Ser	Leu	Ser	Leu	Gly	Glu	Pro	35	40	45	
Thr	Thr	Met	Gly	Arg	Asn	Asn	Leu	Thr	Arg	Pro	Ser	Glu	Phe	Ile	Leu	50	55	60	
Leu	Gly	Leu	Ser	Ser	Arg	Pro	Glu	Asp	Gln	Lys	Pro	Leu	Phe	Ala	Val	65	70	75	80
Phe	Leu	Pro	Ile	Tyr	Leu	Ile	Thr	Val	Ile	Gly	Asn	Leu	Leu	Ile	Ile	85	90	95	
Leu	Ala	Ile	Arg	Ser	Asp	Thr	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	100	105	110	
Leu	Ser	Ile	Leu	Ser	Phe	Val	Asp	Ile	Cys	Tyr	Val	Thr	Val	Ile	Ile	115	120	125	
Pro	Lys	Met	Leu	Val	Asn	Phe	Leu	Ser	Glu	Thr	Lys	Thr	Ile	Ser	Tyr	130	135	140	
Gly	Glu	Cys	Leu	Thr	Gln	Met	Tyr	Phe	Phe	Leu	Ala	Phe	Gly	Asn	Thr	145	150	155	160
Asp	Ser	Tyr	Leu	Leu	Ala	Ala	Met	Ala	Ile	Asp	Arg	Tyr	Val	Ala	Ile	165	170	175	
Cys	Asn	Pro	Phe	His	Tyr	Ile	Thr	Ile	Met	Ser	His	Arg	Cys	Cys	Val	180	185	190	
Leu	Leu	Leu	Val	Leu	Ser	Phe	Cys	Ile	Pro	His	Phe	His	Ser	Leu	Leu	195	200	205	

His Ile Leu Leu Thr Asn Gln Leu Ile Phe Cys Ala Ser Asn Val Ile  
 210 215 220  
 His His Phe Phe Cys Asp Asp Gln Pro Val Leu Lys Leu Ser Cys Ser  
 225 230 235 240  
 Ser His Phe Val Lys Glu Ile Thr Val Met Thr Glu Gly Leu Ala Val  
 245 250 255  
 Ile Met Thr Pro Phe Ser Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu  
 260 265 270  
 Ile Thr Val Leu Lys Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Phe  
 275 280 285  
 Ser Thr Cys Gly Ser His Leu Thr Val Val Thr Leu Phe Tyr Gly Ser  
 290 295 300  
 Ile Ser Tyr Val Tyr Phe Gln Pro Leu Ser Asn Tyr Thr Val Lys Asp  
 305 310 315 320  
 Gln Ile Ala Thr Ile Ile Tyr Thr Val Leu Thr Pro Met Leu Asn Pro  
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<210> 24  
 <211> 1083  
 <212> DNA  
 <213> Homo sapiens

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 ttttatggaa gcattagcta tgtctattht cagccctgt ccaactatac tgtcaaggat 960  
 caaatagcaa caattatcta caccgtactg actcctatgc taaatccatt tatctatagt 1020  
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<210> 25  
 <211> 312

<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (273)  
<223> Any amino acid

<400> 25

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Phe	Ser	Asp	Arg	Pro	Gln	Leu	Glu	Leu	Val	Leu	Phe	Val	Val	Leu	Leu	
			20					25					30			
Ile	Phe	Tyr	Ile	Phe	Thr	Leu	Leu	Gly	Asn	Lys	Thr	Ile	Ile	Val	Leu	
		35					40					45				
Ser	His	Leu	Asp	Pro	His	Leu	His	Asn	Pro	Met	Tyr	Phe	Phe	Phe	Ser	
	50					55					60					
Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Thr	Thr	Gly	Ile	Val	Pro	Gln	
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			85						90					95		
Cys	Val	Val	Gln	Leu	Tyr	Ile	Ser	Leu	Gly	Leu	Gly	Ser	Thr	Glu	Cys	
			100					105					110			
Val	Leu	Leu	Gly	Val	Met	Ala	Phe	Asp	Arg	Tyr	Ala	Ala	Val	Cys	Arg	
	115						120					125				
Pro	Leu	His	Tyr	Thr	Val	Val	Met	His	Pro	Cys	Leu	Tyr	Val	Leu	Met	
	130					135					140					
Ala	Ser	Thr	Ser	Trp	Val	Ile	Gly	Phe	Ala	Asn	Ser	Leu	Leu	Gln	Thr	
145					150					155					160	
Val	Leu	Ile	Leu	Leu	Leu	Thr	Leu	Cys	Gly	Arg	Asn	Lys	Leu	Glu	His	
			165						170					175		
Phe	Leu	Cys	Glu	Val	Pro	Pro	Leu	Leu	Lys	Leu	Ala	Cys	Val	Asp	Thr	
			180						185				190			
Thr	Met	Asn	Glu	Ser	Glu	Leu	Phe	Phe	Val	Ser	Val	Ile	Ile	Leu	Leu	
		195					200					205				
Val	Pro	Val	Ala	Leu	Ile	Ile	Phe	Ser	Tyr	Ser	Gln	Ile	Val	Arg	Ala	
	210					215					220					
Val	Val	Arg	Ile	Lys	Ser	Ala	Thr	Gly	Gln	Arg	Lys	Val	Phe	Gly	Thr	
225					230					235					240	
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Thr	Ala	Ile	
				245					250					255		
Tyr	Ala	Tyr	Leu	Gln	Pro	Gly	Asn	Asn	Tyr	Ser	Gln	Asp	Gln	Gly	Lys	
			260					265					270			
Xaa	Ile	Ser	Leu	Phe	Tyr	Thr	Ile	Ile	Thr	Pro	Met	Ile	Asn	Pro	Leu	



275

280

285

Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val  
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Leu Trp Lys Asn Tyr Asp Ser Arg  
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&lt;210&gt; 26

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 26

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&lt;210&gt; 27

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

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Met Ala Leu Pro Leu Leu Ser Pro Ser Cys Phe Ala Ser Ser Gln
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Ser Leu Ser Ser Arg Met Asn Ser Glu Asn Leu Thr Arg Ala Ala Val
  20 25 30
Ala Pro Ala Glu Phe Val Leu Leu Gly Ile Thr Asn Arg Trp Asp Leu
  35 40 45
Arg Val Ala Leu Phe Leu Thr Cys Leu Pro Val Tyr Leu Val Ser Leu
  50 55 60
Leu Gly Asn Met Gly Met Ala Leu Leu Ile Arg Met Asp Ala Arg Leu
  65 70 75 80
His Thr Pro Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Asp Ala
  85 90 95
Cys Tyr Ser Ser Ala Ile Gly Pro Lys Met Leu Val Asp Leu Leu Leu
  100 105 110
Pro Arg Ala Thr Ile Pro Tyr Thr Ala Cys Ala Leu Gln Met Phe Val

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115					120					125									
Phe	Ala	Gly	Leu	Ala	Asp	Thr	Glu	Cys	Cys	Leu	Leu	Ala	Ala	Met	Ala				
130					135					140									
Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Arg	Asn	Pro	Leu	Leu	Tyr	Thr	Thr	Ala				
145					150					155					160				
Met	Ser	Gln	Arg	Leu	Cys	Leu	Ala	Leu	Leu	Gly	Ala	Ser	Gly	Leu	Gly				
165					170					175									
Gly	Ala	Val	Ser	Ala	Phe	Val	His	Thr	Thr	Leu	Thr	Phe	Arg	Leu	Ser				
180					185					190									
Phe	Cys	Arg	Ser	Arg	Lys	Ile	Asn	Ser	Phe	Phe	Cys	Asp	Ile	Pro	Pro				
195					200					205									
Leu	Leu	Ala	Ile	Ser	Cys	Ser	Asp	Thr	Ser	Leu	Asn	Glu	Leu	Leu	Leu				
210					215					220									
Phe	Ala	Ile	Cys	Gly	Phe	Ile	Gln	Thr	Ala	Thr	Val	Leu	Ala	Ile	Thr				
225					230					235					240				
Val	Ser	Tyr	Gly	Phe	Ile	Ala	Gly	Ala	Val	Ile	His	Met	Arg	Ser	Val				
245					250					255									
Glu	Gly	Ser	Arg	Arg	Ala	Ala	Ser	Thr	Gly	Gly	Ser	His	Leu	Thr	Ala				
260					265					270									
Val	Ala	Met	Met	Tyr	Gly	Thr	Leu	Ile	Phe	Met	Tyr	Leu	Arg	Pro	Ser				
275					280					285									
Ser	Ser	Tyr	Ala	Leu	Asp	Thr	Asp	Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr				
290					295					300									
Leu	Val	Ile	Pro	Ser	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys				
305					310					315					320				
Glu	Val	Lys	Glu	Ala	Leu	Arg	Gln	Thr	Trp	Ser	Arg	Phe	His	Cys	Pro				
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Gly	Gln	Gly	Ser	Gln															
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<210> 28  
 <211> 1026  
 <212> DNA  
 <213> Homo sapiens

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 ggcatacaca atcgctggga cctgcgtgtg gccctcttcc tgacctgcct gcctgtctac 180  
 ctggtgagcc tgctgggaaa catgggcatg gcgctgctga tccgcatgga tgcccggctc 240  
 cacacaccta tgtacttctt cctggccaac ctctccctgc tggatgcctg ctattcctcc 300  
 gccatcggcc ccaagatgct agtggacctg ctgctgcccc gagccaccat cccttacaca 360  
 gcctgtgccc tccagatggt tgtctttgca ggtctggctg atactgagtg ttgcttgctg 420  
 gcagccatgg cctatgaccg ctacgtggcc atcagaaacc cacttctcta tacaacagct 480  
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 gcctttgttc acacaacctt caccctccgc ctgagcttct gccgctcccg gaagatcaat 600

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gtgttctata ccctgggcat cccgtctctc aaccactca tctacagcct ccgcaataag 960
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<210> 29  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

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Val Thr Gly Gln Gln Glu Gln Glu Asp Phe Phe Tyr Ile Leu Phe Leu
          20              25              30

Phe Ile Tyr Pro Ile Thr Leu Ile Gly Asn Leu Leu Ile Val Leu Ala
  35              40              45

Ile Cys Ser Asp Val Arg Leu His Asn Pro Met Tyr Phe Leu Leu Ala
  50              55              60

Asn Leu Ser Leu Val Asp Ile Phe Phe Ser Ser Val Thr Ile Pro Lys
  65              70              75              80

Met Leu Ala Asn His Leu Leu Gly Ser Lys Ser Ile Ser Phe Gly Gly
          85              90              95

Cys Leu Thr Gln Met Tyr Phe Met Ile Ala Leu Gly Asn Thr Asp Ser
  100              105              110

Tyr Ile Leu Ala Ala Met Ala Tyr Asp Arg Ala Val Ala Ile Ser His
  115              120              125

Pro Leu His Tyr Thr Thr Ile Met Ser Pro Arg Ser Cys Ile Trp Leu
  130              135              140

Ile Ala Gly Ser Trp Val Ile Gly Asn Ala Asn Ala Leu Pro His Thr
  145              150              155              160

Leu Leu Thr Ala Ser Leu Ser Phe Cys Gly Asn Gln Glu Val Ala Asn
          165              170              175

Phe Tyr Cys Asp Ile Thr Pro Leu Leu Lys Leu Ser Cys Ser Asp Ile
          180              185              190

His Phe His Val Lys Met Met Tyr Leu Gly Val Gly Ile Phe Ser Val
  195              200              205

Pro Leu Leu Cys Ile Ile Val Ser Tyr Ile Arg Val Phe Ser Thr Val
  210              215              220

Phe Gln Val Pro Ser Thr Lys Gly Val Leu Lys Ala Phe Ser Thr Cys
  225              230              235              240

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Gly Ser His Leu Thr Val Val Ser Leu Tyr Tyr Gly Thr Val Met Gly  
245 250 255

Thr Tyr Phe Arg Pro Leu Thr Asn Tyr Ser Leu Lys Asp Ala Val Ile  
260 265 270

Thr Val Met Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Phe Ile Tyr  
275 280 285

Ser Leu Arg Asn Arg Asp Met Lys Ala Ala Leu Arg Lys Leu Phe Asn  
290 295 300

Lys Arg Ile Ser Ser  
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<210> 30  
<211> 930  
<212> DNA  
<213> Homo sapiens

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ggaaacctgc tcattgtcct agccatttgc tctgatgttc gccttcacaa ccccatgtat 180  
tttctccttg ccaacctctc cttggttgac atcttcttct catcggtaac catccctaag 240  
atgctggcca accatctctt gggcagcaaa tccatctctt ttgggggatg cctaacgcag 300  
atgtatttca tgatagcctt gggtaacaca gacagctata ttttggctgc aatggcatat 360  
gatcgagctg tggccatcag ccacccactt cactacacaa caattatgag tccacgggtct 420  
tgtatctggc ttattgctgg gtcttgggtg attggaaatg ccaatgccct cccccacact 480  
ctgctcacag ctagtctgtc cttctgtggc aaccaggaag tggccaactt ctactgtgac 540  
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ttctccacag tcttccagggt tccttccacc aagggcgtgc tcaaggcctt ctccacctgt 720  
ggttccacc tcacggttgt ctctttgtat tatggtacag tcatgggcac gtatttccgc 780  
cctttgacca attatagcct aaaagacgca gtgatcactg taatgtacac ggcagtgacc 840  
ccaatgttaa atcctttcat ctacagtctg agaaatcggg acatgaaggc tgccctgcgg 900  
aaactcttca acaagagaat ctcctcgtaa 930

<210> 31  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 31  
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20 25 30  
Ile Tyr Met Val Thr Val Ala Gly Asn Leu Gly Met Ile Val Leu Ile  
35 40 45  
Gln Ala Asn Ala Trp Leu His Met Pro Met Tyr Phe Phe Leu Ser His  
50 55 60  
Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Asn Val Thr Pro Lys Met  
65 70 75 80

Leu Glu Ile Phe Leu Ser Glu Lys Lys Ser Ile Ser Tyr Pro Ala Cys  
                                     85                                    90                                    95  
 Leu Val Gln Cys Tyr Leu Phe Ile Ala Leu Val His Val Glu Ile Tyr  
                                     100                                    105                                    110  
 Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Asn Pro  
                                     115                                    120                                    125  
 Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val Cys Ser Phe Leu Ile  
                                     130                                    135                                    140  
 Thr Val Pro Tyr Val Tyr Gly Ala Leu Thr Gly Leu Met Glu Thr Met  
                                     145                                    150                                    155                                    160  
 Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn Glu Ile Asn His Phe  
                                     165                                    170                                    175  
 Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr  
                                     180                                    185                                    190  
 Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly Trp Asn Leu Ser Phe  
                                     195                                    200                                    205  
 Ser Leu Phe Ile Ile Cys Ile Ser Tyr Leu Tyr Ile Phe Pro Ala Ile  
                                     210                                    215                                    220  
 Leu Lys Ile Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
                                     225                                    230                                    235                                    240  
 Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe  
                                     245                                    250                                    255  
 Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val Glu Gln Gly Lys Met  
                                     260                                    265                                    270  
 Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Leu Ile Ile  
                                     275                                    280                                    285  
 Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala Leu Ile Lys Glu Leu  
                                     290                                    295                                    300  
 Ser Met Lys Ile Tyr Phe Ser  
                                     305                                    310

<210> 32

<211> 936

<212> DNA

<213> Homo sapiens

<400> 32

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 aaccttggca tgattgtcct catccaggcc aacgcctggc tccacatgcc catgtacttt 180  
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 tccttcctca tcacgggtgcc ttatgtgtat ggagcgctca ctggcctgat ggagaccatg 480  
 tggacctaca acctagcctt ctgtggcccc aatgaaatta atcacttcta ctgtgcggac 540

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<210> 33  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
 Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys  
 35 40 45  
 Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
 65 70 75 80  
 Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu  
 85 90 95  
 Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile  
 100 105 110  
 Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu  
 115 120 125  
 Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr  
 130 135 140  
 Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp  
 145 150 155 160  
 Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr  
 165 170 175  
 Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val  
 180 185 190  
 Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser  
 195 200 205  
 Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu  
 210 215 220  
 Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met

245								250					255			
Tyr	Leu	Arg	Arg	Pro	Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val	
			260					265					270			
Ala	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr	
		275					280					285				
Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Met	Met	Lys	Val	Ile	Ser	
		290					295					300				
Arg	Ser	Cys														
305																

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gaaaacctgt	tttcagataa	aaaaacaatt	acttatgctg	gttgtttagt	acagtgtttc	300	
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gccggcatta	acttcacata	ttccctgact	gtaattatca	tctcttactt	attcatcctc	660	
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Leu	Thr	Asp	Cys	Pro	Glu	Leu	Gln	Ser	Leu	Leu	Phe	Val	Leu	Phe	Leu
			20					25					30		
Val	Val	Tyr	Leu	Val	Thr	Leu	Leu	Gly	Asn	Leu	Gly	Met	Ile	Met	Leu
		35					40					45			
Met	Arg	Leu	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Thr
	50					55					60				
Asn	Leu	Ala	Phe	Val	Asp	Leu	Cys	Tyr	Thr	Ser	Asn	Ala	Thr	Pro	Gln
65					70					75					80
Met	Ser	Thr	Asn	Ile	Val	Ser	Glu	Lys	Thr	Ile	Ser	Phe	Ala	Gly	Cys

85

90

95

Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr  
 100 105 110  
 Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro  
 115 120 125  
 Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala  
 130 135 140  
 Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile  
 145 150 155 160  
 Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe  
 165 170 175  
 Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr  
 180 185 190  
 Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser  
 195 200 205  
 Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile  
 210 215 220  
 Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys  
 245 250 255  
 Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile  
 260 265 270  
 Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu  
 290 295 300

Arg  
305

<210> 36  
 <211> 918  
 <212> DNA  
 <213> Homo sapiens

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 ggcaacctgg gcatgataat gttaatgaga ctggactctc gccttcacac gcccatgtac 180  
 ttcttcctca ctaacttagc ctttgtggat ttgtgctata catcaaatgc aaccccgag 240  
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 tacattttca ttgcccttct actcactgag ttttacatgc tggcagcaat ggcctatgac 360  
 cgctatgtgg ccataatga cccctctgcgc tacagtgtga aaacgtccag gagagtgtgc 420  
 atctgcttgg ccacatttcc ctatgtctat ggcttctcag atggactctt ccaggccatc 480  
 ctgaccttcc gcctgacctt ctgtagatcc aatgtcatca accacttcta ctgtgctgac 540  
 ccgccgctca ttaagctttc ttgttctgat acttatgtca aagagcatgc catgttcata 600



tctgctggct tcaacctctc cagctccctc accatcgtct tgggtgccta tgccttcatt 660  
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 gggtcccata tgatggctgt caccctgttt tatgggactc tcttttgcac gtatataaga 780  
 ccaccaacag ataagactgt tgaggaatct aaaataatag ctgtctttta cacctttgtg 840  
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 aagaatgtcc tgagatga 918

<210> 37  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
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 Leu Ile Met Tyr Leu Leu Thr Ala Val Gly Asn Val Leu Ile Ile Leu  
 35 40 45  
 Ala Ile Tyr Ser Asp Pro Arg Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 Ser Asn Leu Ser Phe Met Asp Ile Cys Phe Thr Thr Val Ile Val Pro  
 65 70 75 80  
 Lys Met Leu Val Asn Phe Leu Ser Glu Thr Lys Ile Ile Ser Tyr Val  
 85 90 95  
 Gly Cys Leu Ile Gln Met Tyr Phe Phe Met Ala Phe Gly Asn Thr Asp  
 100 105 110  
 Ser Tyr Leu Leu Ala Ser Met Ala Ile Asp Arg Leu Val Ala Ile Cys  
 115 120 125  
 Asn Pro Leu His Tyr Asp Val Val Met Lys Pro Trp His Cys Leu Leu  
 130 135 140  
 Met Leu Leu Gly Ser Cys Ser Ile Ser His Leu His Ser Leu Phe Arg  
 145 150 155 160  
 Val Leu Leu Met Ser Arg Leu Ser Phe Cys Ala Ser His Ile Ile Lys  
 165 170 175  
 His Phe Phe Cys Asp Thr Gln Pro Val Leu Lys Leu Ser Cys Ser Asp  
 180 185 190  
 Thr Ser Ser Ser Gln Met Val Val Met Thr Glu Thr Leu Ala Val Ile  
 195 200 205  
 Val Thr Pro Phe Leu Cys Thr Ile Phe Ser Tyr Leu Gln Ile Ile Val  
 210 215 220  
 Thr Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Trp Lys Ala Phe Ser  
 225 230 235 240  
 Thr Cys Gly Ser His Leu Thr Val Val Val Leu Phe Tyr Gly Ser Val  
 245 250 255

Ile Tyr Val Tyr Phe Arg Pro Leu Ser Met Tyr Ser Val Met Lys Gly  
260 265 270

Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro  
275 280 285

Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Lys Lys  
290 295 300

Leu Arg His Arg Ile Tyr Ser  
305 310

<210> 38  
<211> 936  
<212> DNA  
<213> Homo sapiens

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gtgggggaatg tgctcatcat cctggccatc tactctgacc ccaggctcca caccctatg 180  
tacttttttc tcagcaactt gtctttcatg gatattctgct tcacaacagt catagtgcct 240  
aagatgctgg tgaattttct atcagagaca aagattatct cttatgtggg ctgcctgac 300  
cagatgtact tcttcatggc atttgggaac actgacagct acctgctggc ctctatggcc 360  
atcgaccggc tgggtggccat ctgcaacccc ttacactatg atgtggttat gaaaccatgg 420  
cattgcctac tcatgctatt gggttcttgc agcatctccc acctacattc cctgttccgc 480  
gtgctactta tgtctcgctt gtctttctgt gcctctcaca tcattaagca ctttttctgt 540  
gacaccacagc ctgtgctaaa gctctcctgc tctgacacat cctccagcca gatgggtggg 600  
atgactgaga ccttagctgt cattgtgacc cccttctgt gtaccatctt ctctacctg 660  
caaatcatcg tcaactgtgt cagaatcccc tctgcagccg ggaagtggaa ggccttctct 720  
acctgtgggt cccacctcac tgtagtggtc ctgttctatg ggagtgtcat ctatgtctat 780  
tttaggcctc tgtccatgta ctcaagtatg aagggccggg tagccacagt tatgtacaca 840  
gtagtgcacac ccattgctgaa ccctttcatc tacagcctga ggaacaaaga tatgaaaagg 900  
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<210> 39  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 39  
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Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu  
35 40 45

Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly  
50 55 60

Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys  
65 70 75 80

Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu  
85 90 95

Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys  
 100 105 110  
 Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met  
 130 135 140  
 Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val  
 145 150 155 160  
 Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His  
 165 170 175  
 Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro  
 180 185 190  
 Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val  
 195 200 205  
 Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr  
 210 215 220  
 Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe  
 245 250 255  
 Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile  
 260 265 270  
 Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile  
 290 295 300  
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 305 310 315

<210> 40  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

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 gggaatatta gtttgggtggc actgatattt acacactgtc ggcttcacac accaatgtac 180  
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 ttttattttc tttgcactgt ggaaactgca gactgctttc ttctggcagc agtggcctat 360  
 gaccgctatg tggccatctg caaccactg cagtaccaca tcatgatgtc caagaaactc 420  
 tgcattcaga tgaccacagg cgccttcata gctggaaatc tgcattccat gattcatgta 480  
 gggcttgtat ttaggttagt tttctgtgga ttgaatcaca tcaaccactt ttactgtgat 540  
 actcttcctt tgtatagact ctctgtgtt gaccctttca tcaatgaact gggtctattc 600  
 atcttctcag gttcagttca agtctttacc ataggtagtg tcttaatatc ttatctctat 660

attcttctta ctattttcag aatgaaatcc aaggagggaa gggccaaagc cttttctact 720  
 tgtgcatccc acttttcac agtttcatta ttctatggat ctattttttt cctatacatt 780  
 agaccaaatt tgcttgaaga aggaggtaat gatataccag ctgctatttt atttacaata 840  
 gtagttccct tactaaatcc tttcatttat agtctgagaa acaaggaagt aaatagtgtc 900  
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<210> 41  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 41

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			20					25					30		
Tyr	Ile	Leu	Thr	Met	Val	Gly	Asn	Leu	Leu	Ile	Val	Val	Thr	Val	Thr
	35						40					45			
Val	Ser	Glu	Thr	Leu	Gly	Ser	Pro	Met	Ser	Phe	Phe	Leu	Ala	Gly	Leu
	50					55					60				
Thr	Phe	Ile	Asp	Ile	Ile	Tyr	Ser	Ser	Ser	Ile	Ser	Pro	Arg	Leu	Ile
	65				70					75					80
Ser	Asp	Leu	Phe	Phe	Gly	Asn	Asn	Ser	Ile	Ser	Phe	Gln	Ser	Phe	Met
			85						90					95	
Ala	Gln	Leu	Phe	Ile	Glu	His	Leu	Phe	Gly	Gly	Ser	Glu	Val	Phe	Leu
		100						105					110		
Leu	Leu	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu
		115					120					125			
His	Tyr	Leu	Val	Ile	Met	Arg	Gln	Trp	Val	Cys	Val	Leu	Leu	Leu	Val
	130					135					140				
Val	Ser	Trp	Val	Gly	Gly	Phe	Leu	Gln	Ser	Val	Phe	Gln	Leu	Ser	Ile
145				150						155					160
Ile	Tyr	Gly	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Val	Ile	Asp	His	Phe	Phe
			165						170					175	
Cys	Asp	Met	Tyr	Pro	Leu	Leu	Lys	Leu	Ala	Cys	Thr	Asp	Thr	His	Val
		180						185					190		
Ile	Gly	Leu	Leu	Val	Val	Ala	Asn	Gly	Gly	Leu	Ser	Cys	Thr	Ile	Ala
	195						200					205			
Phe	Leu	Leu	Leu	Leu	Ile	Ser	Tyr	Gly	Val	Ile	Leu	His	Ser	Leu	Lys
	210					215					220				
Lys	Leu	Ser	Gln	Lys	Gly	Arg	Gln	Lys	Ala	His	Ser	Thr	Cys	Ser	Ser
225					230					235					240
His	Ile	Thr	Val	Val	Val	Phe	Phe	Phe	Val	Pro	Cys	Ile	Phe	Met	Cys
			245						250					255	

Ala Arg Pro Ala Arg Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe  
260 265 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
275 280 285

Asn Ser Glu Met Thr Ser Ala Met Lys Lys Leu  
290 295

<210> 42  
<211> 900  
<212> DNA  
<213> Homo sapiens

<400> 42  
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ctgctcattg tagtgaccgt aactgtcagt gagaccctgg gctcaccaat gtccttcttt 180  
cttgctggct taacatttat agatatcatt tattcttcat ccatttcccc cagattgatt 240  
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tatgtggcca tctgtaagcc cttgcattat ttggttatca tgagacaatg ggtgtgtgtt 420  
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atttatgggc tcccattctg tggccccaat gtcattgatc attttttctg tgacatgtat 540  
cccttattga aactggcctg cactgacacc' catgttattg gcctcttagt ggtggccaat 600  
ggaggactgt cttgcactat tgcgtttctg ctcttactca tctcttatgg tgtcatcctg 660  
cactctctaa agaaacttag tcagaaaggg aggcacaaaag cccactcaac ctgcagttcc 720  
cacatcactg tggttgtcct cttctttgtt ccttgatatt ttatgtgtgc tagacctgct 780  
aggaccttct ccattgacaa atcagtgaat gtgttttata cagtcataac cccaatgctg 840  
aaccctttaa tctacactct gagaaattct gagatgacaa gtgctatgaa gaagcttttag 900

<210> 43  
<211> 315  
<212> PRT  
<213> Homo sapiens

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<223> Any amino acid

<220>  
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<223> Any amino acid

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<222> (34)..(35)  
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<221> MOD\_RES

<222> (145)..(146)

<223> Any amino acid

<220>

<221> MOD\_RES

<222> (169)

<223> Any amino acid

<400> 43

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	20							25					30		

Tyr	Xaa	Xaa	Thr	Val	Val	Gly	Asn	Leu	Leu	Ile	Val	Val	Asp	Ile	Ile
	35						40					45			

Ala	Ser	Pro	Xaa	Leu	Gly	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ala	Cys	Leu
	50					55					60				

Ser	Phe	Ile	Asp	Ala	Ala	Tyr	Ser	Thr	Thr	Ile	Ser	Pro	Lys	Leu	Ile
65				70						75					80

Val	Gly	Leu	Phe	Cys	Asp	Lys	Lys	Thr	Ile	Ser	Phe	Gln	Gly	Cys	Met
				85					90					95	

Gly	Gln	Leu	Phe	Ile	Asp	His	Phe	Phe	Gly	Gly	Ala	Glu	Val	Phe	Leu
		100						105					110		

Leu	Val	Val	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu
	115						120					125			

His	Tyr	Leu	Thr	Ile	Met	Asn	Arg	Gln	Val	Cys	Phe	Leu	Leu	Leu	Val
	130					135					140				

Xaa	Xaa	Met	Ile	Gly	Gly	Phe	Val	His	Ser	Ala	Phe	Gln	Ile	Val	Val
145				150						155					160

Tyr	Ser	Leu	Pro	Phe	Cys	Gly	Pro	Xaa	Val	Ile	Val	His	Phe	Ser	Cys
				165					170					175	

Asp	Met	His	Pro	Leu	Leu	Glu	Leu	Ala	Cys	Thr	Asp	Thr	Tyr	Phe	Ile
			180					185					190		

Gly	Leu	Thr	Val	Val	Val	Asn	Ser	Gly	Ala	Ile	Cys	Met	Val	Ile	Phe
		195					200					205			

Asn	Leu	Leu	Leu	Ile	Ser	Tyr	Gly	Val	Ile	Leu	Ser	Ser	Leu	Lys	Thr
	210					215					220				

Tyr	Ser	Gln	Glu	Lys	Arg	Gly	Lys	Ala	Leu	Ser	Thr	Cys	Ser	Ser	Gly
225					230					235					240

Ser	Thr	Val	Val	Val	Leu	Phe	Phe	Val	Pro	Cys	Ile	Phe	Ile	Tyr	Val
				245					250						255

Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr  
                   260                                  265                                  270  
 Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn  
                   275                                  280                                  285  
 Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr  
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 Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met  
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<210> 44  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

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 <223> a, t, c, or g

<220>  
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 <222> (11)  
 <223> a, t, c, or g

<220>  
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 <222> (64)..(66)  
 <223> a, t, c, or g

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 <223> a, t, c, or g

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 <223> a, t, c, or g

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 <223> a, t, c, or g

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 <223> a, t, c, or g

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 <222> (505)

<223> a, t, c, or g

<400> 44

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ctgctcattg tngtggatat tattgccagc ccttnnttgg gttccccaat gtatttcttc 180
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tacagtctcc ctttctgtgg tcccnatgtc attgttcatt tcagtTgtga catgcaccca 540
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agtaccgtTg ttgtcctctt ttttgtaccc tgtattttca tatatgttag acctgtttca 780
aactttccta ctgataagtt catgactgtg ttttatacca ttatcacaca catgctgagt 840
cctttaatat atacgtTgag aaattcagag atgagaaatg ctatagaaaa actcttgggT 900
aaaaagttaa ctatatTTat tataggagga gtgtccgtcc tcatgtag 948
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<210> 45

<211> 314

<212> PRT

<213> Homo sapiens

<400> 45

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      20              25              30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu
      35              40              45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser
      50              55              60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln
      65              70              75              80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His
      85              90              95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Cys
      100              105              110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn
      115              120              125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu
      130              135              140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr
      145              150              155              160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe
      165              170              175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr
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180	185	190
Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu		
195	200	205
Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr		
210	215	220
Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr		
225	230	235
Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile		
245	250	255
Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys		
260	265	270
Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val		
290	295	300
Ala Arg Arg Leu Gln Val Ser Leu Ser Met		
305	310	

<210> 46  
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 <212> DNA  
 <213> Homo sapiens

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 gggaatgtgg ggatgattat gttaatccaa gtagatgtca aactctacac cccaatgtac 180  
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 ctcccacccc tgctgaagct tgccctgcagt gacacagcaa acatcgagat tgtcatcatc 600  
 ttctttggca attttgtgat tttggccaat gcctccgtca tcctgatttc ctatctgctc 660  
 atcatcaaga ccattttgaa agtgaagtct tcagggtggca gggccaagac tttctccaca 720  
 tgtgcctctc acatcactgc tgtggccctt ttctttggag cccttatctt catgtatctg 780  
 caaagtggct caggcaaata tctggaggaa gacaaagtcg tgtctgtctt ctatacagtg 840  
 gtcaccccca tgctgaacct tctgatctac agcttaagaa acaaagatgt aaaagacgcc 900  
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<210> 47  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
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20					25					30				
Phe	Val	Tyr	Ile	Thr	Thr	Val	Met	Gly	Asn	Ile	Leu	Ile	Ile	Thr
		35					40					45		
Val	Thr	Ser	Asp	Ser	Gln	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Arg
	50					55					60			
Asn	Leu	Ala	Val	Leu	Asp	Leu	Cys	Phe	Ser	Ser	Val	Thr	Ala	Lys
65						70					75			80
Met	Leu	Val	Asp	Leu	Leu	Ser	Glu	Lys	Lys	Thr	Ile	Ser	Tyr	Gln
				85					90					95
Cys	Met	Gly	Gln	Ile	Phe	Phe	Phe	His	Phe	Leu	Gly	Gly	Ala	Met
			100					105					110	Val
Phe	Phe	Leu	Ser	Val	Met	Ala	Phe	Asp	Arg	Leu	Ile	Ala	Ile	Arg
		115					120					125		
Pro	Leu	Arg	Tyr	Val	Thr	Val	Met	Asn	Thr	Gln	Leu	Trp	Val	Gly
	130					135					140			Leu
Val	Val	Ala	Thr	Trp	Val	Gly	Gly	Phe	Val	His	Ser	Ile	Val	Gln
145						150					155			160
Ala	Leu	Met	Leu	Pro	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Ile	Leu	Asp
				165					170					175
Phe	Tyr	Cys	Asp	Val	Pro	Gln	Val	Leu	Arg	Leu	Ala	Cys	Thr	Asp
			180					185					190	Thr
Ser	Leu	Leu	Glu	Phe	Leu	Lys	Ile	Ser	Asn	Ser	Gly	Leu	Leu	Asp
		195					200					205		Val
Val	Trp	Phe	Phe	Leu	Leu	Leu	Met	Ser	Tyr	Leu	Phe	Ile	Leu	Met
	210					215					220			
Leu	Arg	Ser	His	Pro	Gly	Glu	Ala	Arg	Arg	Lys	Ala	Ala	Ser	Cys
225						230					235			240
Thr	Thr	His	Ile	Ile	Val	Val	Ser	Met	Ile	Phe	Val	Pro	Ser	Ile
			245						250					255
Leu	Tyr	Ala	Arg	Pro	Phe	Thr	Pro	Phe	Pro	Met	Asp	Lys	Leu	Val
			260					265					270	Ser
Ile	Gly	His	Thr	Val	Met	Thr	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr
		275					280					285		Thr
Leu	Arg	Asn	Gln	Asp	Met	Gln	Ala	Ala	Val	Arg	Arg	Leu	Gly	Arg
	290					295					300			His
Arg	Leu	Val												
305														

<210> 48  
 <211> 924  
 <212> DNA  
 <213> Homo sapiens

<400> 48

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cgggagctcc agcgtttcct gtttctaatag ttctgttttg tctacatcac cactgttatg 120
ggaaacatcc ttatcatcat cacagtgacc tctgattccc agctccacac acccatgtac 180
tttctgctcc gaaacctggc tgtcctagac ctctgtttct cttcagtcac tgctccaaa 240
atgctagtgg acctcctctc tgagaagaaa accatctctt accagggctg catgggtcag 300
atcttcttct tccacttttt gggaggtgcc atggtcttct tcctctcagt gatggccttt 360
gaccgcctca ttgccatctc cgggccctc cgctatgtca ccgtcatgaa cactcagctc 420
tggttggtggc tggtggtagc cacctgggtg ggaggctttg tccactctat tgtccagctg 480
gctctgatgc tcccactgcc cttctgtggc cccaacattt tggataactt ctactgtgat 540
gttccccaag tactgagact tgccctgcaact gacacctcac tgctggagtt cctcaagatc 600
tccaacagtg ggctgctgga tgtcgtctgg ttcttcctcc tcctgatgtc ctacttattc 660
atcctggtga tgctgaggtc acatccaggg gaggcaagaa ggaaggcagc ttccaccttc 720
accaccaca tcatcgtggg ttccatgac ttcgttccaa gcatttacct ctatgcccg 780
cccttcactc cattccctat ggacaagctt gtgtccatcg gccacacagt catgacccc 840
atgctcaacc ccatgatcta taccctgagg aaccaggaca tgcaggcagc agtgagaaga 900
ttagggagac accggtcgtt ttga 924
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<210> 49

<211> 310

<212> PRT

<213> Homo sapiens

<400> 49

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Met Ala Ala Lys Asn Ser Ser Val Thr Glu Phe Ile Leu Glu Gly Leu
  1              5              10              15

Thr His Gln Pro Gly Leu Arg Ile Pro Leu Phe Phe Leu Phe Leu Gly
      20              25              30

Phe Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu Ile
      35              40              45

Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn
      50              55              60

Leu Ser Leu Ile Asp Phe Cys Phe Ser Thr Thr Ile Thr Pro Lys Met
      65              70              75              80

Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly Cys
      85              90              95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Val Ser Glu Ser Phe
      100              105              110

Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro
      115              120              125

Leu Leu Tyr Thr Val Thr Met Ser Cys Gln Val Cys Leu Leu Leu Leu
      130              135              140

Leu Gly Ala Tyr Gly Met Gly Phe Ala Gly Ala Met Ala His Thr Gly
      145              150              155              160

Ser Ile Met Asn Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His Phe
      165              170              175

Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Ser Ser Tyr
      180              185              190
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Met Asn Glu Leu Val Val Phe Ile Val Val Ala Val Asp Val Gly Met  
195 200 205

Pro Ile Val Thr Val Phe Ile Ser Tyr Ala Leu Ile Leu Ser Ser Ile  
210 215 220

Leu His Asn Ser Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Ile Ile Val Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
245 250 255

Met Tyr Leu Lys Pro Leu Ser Ile Leu Pro Leu Glu Gln Gly Lys Val  
260 265 270

Ser Ser Leu Phe Tyr Thr Ile Ile Val Pro Val Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Arg Thr Leu  
290 295 300

Gly Arg Lys Ile Phe Ser  
305 310

<210> 50  
<211> 933  
<212> DNA  
<213> Homo sapiens

<400> 50  
atggcagcca aaaactcttc tgtgacagag tttatcctcg aaggcttaac ccaccagccg 60  
ggactgcgga tccccctctt ctctctggtt ctgggtttct acacgggtcac cgtgggtggg 120  
aacctgggct tgataaccct gattgggctg aactctcacc tgcacactcc catgtacttc 180  
ttccttttta acctctcttt aatagatttc tgtttctcca ctaccatcac tcccaaatg 240  
ctgatgagtt ttgtctcaag gaagaacatc atttccttca cagggtgtat gactcagctc 300  
ttcttcttct gcttctttgt cgtctctgag tccttcatcc tgtcagcgat ggcgtatgac 360  
cgctacgtgg ccatctgtaa cccactggtg tacacagtca ccatgtcttg ccagggtgtg 420  
ttgctccttt tgttgggtgc ctatgggatg gggtttgctg gggccatggc ccacacagga 480  
agcataatga acctgacctt ctgtgctgac aaccttgtca atcatttcat gtgtgacatc 540  
cttctctctc ttgagctctc ctgcaacagc tcttacatga atgagctggt ggtctttatt 600  
gtgggtggctg ttgacgttgg aatgcccatt gtcactgtct ttatttctta tgccctcatc 660  
ctctccagca ttctacacaa cagttctaca gaaggcaggt ccaaagcctt tagtacttgc 720  
agttcccaca taattgtagt ttctcttttc tttgggtctg gtgctttcat gtatctcaaa 780  
cccctttcca tctgccccct cgagcaaggg aaagtgtcct ccctgttcta taccataata 840  
gtccccgtgt taaaccatt aatctatagc ttgaggaaca aggatgtcaa agttgcctg 900  
aggagaactt tgggcagaaa aatcttttct taa 933

<210> 51  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 51  
Met Pro Ser Gln Asn Tyr Ser Ile Ile Ser Glu Phe Asn Leu Phe Gly  
1 5 10 15

Phe Ser Ala Phe Pro Gln His Leu Leu Pro Ile Leu Phe Leu Leu Tyr  
20 25 30

Leu Leu Met Phe Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala  
 35 40 45  
 Thr Ile Trp Ile Glu His Arg Leu His Thr Pro Met Tyr Leu Phe Leu  
 50 55 60  
 Cys Thr Leu Ser Val Ser Glu Ile Leu Phe Thr Val Ala Ile Thr Pro  
 65 70 75 80  
 Arg Met Leu Ala Asp Leu Leu Ser Thr His His Ser Ile Thr Phe Val  
 85 90 95  
 Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His  
 100 105 110  
 Ser Phe Leu Leu Leu Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125  
 His Pro Leu Arg Tyr Asn Val Leu Met Ser Pro Arg Asp Cys Ala His  
 130 135 140  
 Leu Val Ala Cys Thr Trp Ala Gly Gly Ser Val Met Gly Met Met Val  
 145 150 155 160  
 Thr Thr Ile Val Phe His Leu Thr Phe Cys Gly Ser Asn Val Ile His  
 165 170 175  
 His Phe Phe Cys His Val Leu Ser Leu Leu Lys Leu Ala Cys Glu Asn  
 180 185 190  
 Lys Thr Ser Ser Val Ile Met Gly Val Met Leu Val Cys Val Thr Ala  
 195 200 205  
 Leu Ile Gly Cys Leu Phe Leu Ile Ile Leu Ser Tyr Val Phe Ile Val  
 210 215 220  
 Ala Ala Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg His Lys Thr Phe  
 225 230 235 240  
 Ser Thr Cys Val Ser His Leu Thr Val Val Val Thr His Tyr Ser Phe  
 245 250 255  
 Ala Ser Phe Ile Tyr Leu Lys Pro Lys Gly Leu His Ser Met Tyr Ser  
 260 265 270  
 Asp Ala Leu Met Ala Thr Thr Tyr Thr Val Phe Thr Pro Phe Leu Ser  
 275 280 285  
 Pro Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Asn Ala Ile Asn  
 290 295 300  
 Lys Asn Phe Tyr Arg Lys Phe Cys Pro Pro Ser Ser  
 305 310 315

<210> 52  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

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<400> 52
atgcctagtc agaactatag catcatatct gaatttaacc tctttggcctt ctcagccttc 60
ccccagcacc tcctgcccac cttgttcctg ctgtacctcc tgatgttcct gttcacattg 120
ctgggcaacc ttctcatcat ggccacaatc tggattgaac acagactcca cacacccatg 180
tacctcttct tgtgcaccct ctccgtctct gagattctgt tcactgttgc catcacccct 240
cgcattgctg ctgattctgt ttccacccat cattccatca cctttgtggc ttgtgccaac 300
cagatgttct tctccttcat gtttggcctc actcactcct tccttctcct ggtcatgggc 360
tatgatcgct atgtggccat ctgccacca ctgcgttaca atgtgctcat gagccccctg 420
gactgtgccc atcttgtggc ctgtacctgg gctgggtggc cagtcatggg gatgatggg 480
acaacgatag tttccacct cactttctgt gggctaatg tgatccacca ttttttctgt 540
catgtgcttt ccctcttgaa gttggcctgt gaaaacaaga catcatctgt catcatgggt 600
gtgatgctgg tgtgtgtcac agccctgata ggctgtttat tcctcatcat cctctcctat 660
gtcttcattg tggctgccat cttgaggatt ccctctgccg aaggccggca caagacattt 720
tctacgtgtg tatccacct cactgtggtg gtcacgcact atagttttgc ctcctttatc 780
tacctcaagc ccaagggcct ccattctatg tacagtgacg ccttgatggc caccacctat 840
actgtcttca ccccttcct tagcccaatc attttcagcc taaggaacaa ggagctgaag 900
aatgccataa ataaaaactt ttacagaaaa ttctgtcctc caagttcctg a 951

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<210> 53
<211> 310
<212> PRT
<213> Homo sapiens

```

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<220>
<221> MOD_RES
<222> (126)
<223> Any amino acid

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<220>
<221> MOD_RES
<222> (146)
<223> Any amino acid

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<220>
<221> MOD_RES
<222> (148)
<223> Any amino acid

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<400> 53
Met Pro Asn Phe Thr Asp Val Thr Glu Phe Thr Leu Leu Gly Leu Thr
  1             5             10             15

Cys Arg Gln Glu Leu Gln Val Leu Phe Phe Val Val Phe Leu Ala Val
      20             25             30

Tyr Met Ile Thr Leu Leu Gly Asn Ile Gly Met Ile Ile Leu Ile Ser
  35             40             45

Ile Ser Pro Gln Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu
  50             55             60

Ser Phe Ala Asp Val Cys Phe Ser Ser Asn Val Thr Pro Lys Met Leu
  65             70             75             80

Glu Asn Leu Leu Ser Glu Thr Lys Thr Ile Ser Tyr Val Gly Cys Leu
      85             90             95

Val Gln Cys Tyr Phe Phe Ile Ala Val Val His Val Glu Val Tyr Ile
  100             105             110

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Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Gly Cys Xaa Pro Leu  
 115 120 125  
 Leu Tyr Gly Ser Lys Met Ser Arg Thr Val Cys Val Arg Leu Ile Ser  
 130 135 140  
 Val Xaa Tyr Xaa Tyr Gly Phe Ser Val Ser Leu Ile Cys Thr Leu Trp  
 145 150 155 160  
 Thr Tyr Gly Leu Tyr Phe Cys Gly Asn Phe Glu Ile Asn His Phe Tyr  
 165 170 175  
 Cys Ala Asp Pro Pro Leu Ile Gln Ile Ala Cys Gly Arg Val His Ile  
 180 185 190  
 Lys Glu Ile Thr Met Ile Val Ile Ala Gly Ile Asn Phe Thr Tyr Ser  
 195 200 205  
 Leu Ser Val Val Leu Ile Ser Tyr Thr Leu Ile Val Val Ala Val Leu  
 210 215 220  
 Arg Met Arg Ser Ala Asp Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 Ser His Leu Thr Ala Val Ser Met Phe Tyr Gly Thr Pro Ile Phe Met  
 245 250 255  
 Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val  
 260 265 270  
 Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr  
 275 280 285  
 Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr  
 290 295 300  
 Lys Thr Tyr Val Arg Gln  
 305 310

<210> 54  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> modified\_base  
 <222> (378)  
 <223> a, t, c, or g

<220>  
 <221> modified\_base  
 <222> (436)..(438)  
 <223> a, t, c, or g

<220>  
 <221> modified\_base  
 <222> (443)..(444)  
 <223> a, t, c, or g

<400> 54

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ctacaggttc tcttttttgt ggtgttccta gcggtttaca tgatcactct gttgggaaat 120
attggtatga tcattttgat tagcatcagt cctcagcttc agagtcccat gtactttttc 180
ctgagtcacg tgtcttttgc ggacgtgtgc ttctcctcca acgttacccc caaaatgctg 240
gaaaacttat tatcagagac aaaaaccatt tctatgtgg gatgcttgg gcagtgtac 300
tttttcattg ccgttggtcca cgtggaggtc tatatcctgg ctgtgatggc ctttgacagg 360
tacatggccg gctgcaancc tctgctttat ggcagtaaaa tgtctaggac tgtgtgtgtt 420
cggctcatct ctgtgnnta tgnntatgga ttctctgtca gcctaatatg cacactatgg 480
acttatggct tatacttctg tggaaacttt gaaatcaatc acttctattg tgcagatccc 540
cctctcatcc agattgcctg tgggagagtg cacatcaaag aaatcacaat gattgttatt 600
gctggaatta acttcacata ttccctctcg gtggctcctca tctcctacac tctcattgta 660
gtagctgtgc tacgcatgcg ctctgccgat ggcaggagga aggcgttctc cacctgtggg 720
tcccacttga cggctgtttc tatgttttat gggaccccca tcttcatgta tctcaggaga 780
cccactgagg aatccgtaga gcagggcaaa atggtggctg tgttttacac cacagtaatt 840
cctatgttga atcccatgat ctacagtctg agaaataagg atgtaaaaga agcagtcaac 900
aaagcaatca ccaagacata tgtgaggcag taa 933

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<210> 55  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 55

Met	Met	Ser	Phe	Ala	Pro	Asn	Ala	Ser	His	Ser	Pro	Val	Phe	Leu	Leu	1	5	10	15
Leu	Gly	Phe	Ser	Arg	Ala	Asn	Ile	Ser	Tyr	Thr	Leu	Leu	Phe	Phe	Leu	20	25	30	
Phe	Leu	Ala	Ile	Tyr	Leu	Thr	Thr	Ile	Leu	Gly	Asn	Val	Thr	Leu	Val	35	40	45	
Leu	Leu	Ile	Ser	Trp	Asp	Ser	Arg	Leu	His	Ser	Pro	Met	Tyr	Tyr	Leu	50	55	60	
Leu	Arg	Gly	Leu	Ser	Val	Ile	Asp	Met	Gly	Leu	Ser	Thr	Val	Thr	Leu	65	70	75	80
Pro	Gln	Leu	Leu	Ala	His	Leu	Val	Ser	His	Tyr	Pro	Thr	Ile	Pro	Ala	85	90	95	
Ala	Arg	Cys	Leu	Ala	Gln	Phe	Phe	Phe	Phe	Tyr	Ala	Phe	Gly	Val	Thr	100	105	110	
Asp	Thr	Leu	Val	Ile	Ala	Val	Met	Ala	Leu	Asp	Arg	Tyr	Val	Ala	Ile	115	120	125	
Cys	Asp	Pro	Leu	His	Tyr	Ala	Leu	Val	Met	Asn	His	Gln	Arg	Cys	Ala	130	135	140	
Cys	Leu	Leu	Ala	Leu	Ser	Trp	Val	Val	Ser	Ile	Leu	His	Thr	Met	Leu	145	150	155	160
Arg	Val	Gly	Leu	Val	Leu	Pro	Leu	Cys	Trp	Thr	Gly	Asp	Ala	Gly	Gly	165	170	175	
Asn	Val	Asn	Leu	Pro	His	Phe	Phe	Cys	Asp	His	Arg	Pro	Leu	Leu	Arg	180	185	190	
Ala	Ser	Cys	Ser	Asp	Ile	His	Ser	Asn	Glu	Leu	Ala	Ile	Phe	Phe	Glu				



195		200		205
Gly Gly Phe Leu Met Leu Gly Pro Cys Ala Leu Ile Val Leu Ser Tyr				
210		215		220
Val Arg Ile Gly Ala Ala Ile Leu Arg Leu Pro Ser Ala Ala Gly Arg				
225		230		235
Arg Arg Ala Val Ser Thr Cys Gly Ser His Leu Thr Met Val Gly Phe				
	245		250	255
Leu Tyr Gly Thr Ile Ile Cys Val Tyr Phe Gln Pro Pro Phe Gln Asn				
	260		265	270
Ser Gln Tyr Gln Asp Met Val Ala Ser Val Met Tyr Thr Ala Ile Thr				
	275		280	285
Pro Leu Ala Asn Pro Phe Val Tyr Ser Leu His Asn Lys Asp Val Lys				
	290		295	300
Gly Ala Leu Cys Arg Leu Leu Glu Trp Val Lys Val Asp Pro				
305		310		315

<210> 56  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 56  
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 agagctaaca tctcctacac tctcctcttc ttctgttcc tggctattta cctgaccacc 120  
 atactgggga atgtgacact ggtgctgctc atctcctggg actccagact gcactcacc 180  
 atgtattatc tgcttcgtgg cctctctgtg atagacatgg ggctatccac agttacactg 240  
 cccagttgc tggccattt ggtctctcat taccacaacca ttctgctgc ccgctgcttg 300  
 gctcagttct ttttcttcta tgcatttggg gttacagata cacttgatcat tgctgtcatg 360  
 gctctggatc gctatgtggc catctgtgac cccctgcact atgctttggt aatgaatcac 420  
 caacggtgtg cctgcttact agccttgagc tgggtgggtg ccatactgca caccatgttg 480  
 cgtgtgggac tcgtcctgcc tctttgctgg actggggatg ctgggggcaa cgtaaaccct 540  
 cctcacttct tttgtgacca ccggccactt ctgcgagcct cttgttctga catacattct 600  
 aatgagctgg ccatattctt tgagggtggc ttcccttatgc tggggccctg tgccctcatt 660  
 gtactctctt atgtccgaat tggggccgct attctacgtt tgccttcagc tgctgggtgc 720  
 cgccgagcag tctccacctg tggatccac ctcaccatgg ttggtttcct ctacggcacc 780  
 atcatttgtg tctacttcca gcctcccttc cagaactctc agtatcagga catggtggct 840  
 tcagtaatgt atactgcat tacacctttg gccaacccat ttgtgtatag cctccacaat 900  
 aaggatgtca aggggtgcact ctgcaggctg cttgaatggg tgaaggtaga cccctga 957

<210> 57  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MOD\_RES  
 <222> (142)..(143)  
 <223> Any amino acid

<400> 57  
 Met Gly Phe Leu Ser Pro Met His Pro Cys Arg Pro Pro Thr Gln Arg  
 1 5 10 15

Arg	Met	Ala	Ala	Gly	Asn	His	Ser	Thr	Val	Thr	Glu	Phe	Ile	Leu	Lys	20	25	30
Gly	Leu	Thr	Lys	Arg	Ala	Asp	Leu	Gln	Leu	Pro	Leu	Phe	Leu	Leu	Phe	35	40	45
Leu	Gly	Ile	Tyr	Leu	Val	Thr	Ile	Val	Gly	Asn	Leu	Gly	Met	Ile	Thr	50	55	60
Leu	Ile	Cys	Leu	Asn	Ser	Gln	Leu	His	Thr	Pro	Met	Tyr	Tyr	Phe	Leu	65	70	75
Ser	Asn	Leu	Ser	Leu	Met	Asp	Leu	Cys	Tyr	Ser	Ser	Val	Ile	Thr	Pro	85	90	95
Lys	Met	Leu	Val	Asn	Phe	Val	Ser	Glu	Lys	Asn	Ile	Ile	Ser	Tyr	Ala	100	105	110
Gly	Cys	Met	Ser	Gln	Leu	Tyr	Phe	Phe	Leu	Val	Phe	Val	Ile	Ala	Glu	115	120	125
Cys	Tyr	Met	Leu	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Xaa	Xaa	Cys	130	135	140
His	Pro	Leu	Leu	Tyr	Asn	Ile	Ile	Met	Ser	His	His	Thr	Cys	Leu	Leu	145	150	155
Leu	Val	Ala	Val	Val	Tyr	Ala	Ile	Gly	Leu	Ile	Gly	Ser	Thr	Ile	Glu	165	170	175
Thr	Gly	Leu	Met	Leu	Lys	Leu	Pro	Tyr	Cys	Glu	His	Leu	Ile	Ser	His	180	185	190
Tyr	Phe	Cys	Asp	Ile	Leu	Pro	Leu	Met	Lys	Leu	Ser	Cys	Ser	Ser	Thr	195	200	205
Tyr	Asp	Val	Glu	Met	Thr	Val	Phe	Phe	Ser	Ala	Gly	Phe	Asn	Ile	Ile	210	215	220
Val	Thr	Ser	Leu	Thr	Val	Leu	Val	Ser	Tyr	Thr	Phe	Ile	Leu	Ser	Ser	225	230	235
Ile	Leu	Gly	Ile	Ser	Thr	Thr	Glu	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr	245	250	255
Cys	Ser	Ser	His	Leu	Ala	Ala	Val	Gly	Met	Phe	Tyr	Gly	Ser	Thr	Ala	260	265	270
Phe	Met	Tyr	Leu	Lys	Pro	Ser	Thr	Ile	Ser	Ser	Leu	Thr	Gln	Glu	Asn	275	280	285
Val	Ala	Ser	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	290	295	300
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Ala	Ala	Val	Gln	Lys	Thr	305	310	315
Leu	Arg	Gly	Lys	Leu	Phe											325		

<210> 58  
<211> 981  
<212> DNA  
<213> Homo sapiens

<220>  
<221> modified\_base  
<222> (425)  
<223> a, t, c, or g

<220>  
<221> modified\_base  
<222> (427)  
<223> a, t, c, or g

<400> 58  
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ggaaatcact ctacagtgac agagttcatt ctcaagggtt taacgaagag agcagacctc 120  
cagctcccc tctttctcct ctctctcggt atctacttgg tcaccatcgt ggggaacctg 180  
ggcatgatca ctctaatttg tctgaactct cagctgcaca ccccatgta ctactttctc 240  
agcaatctgt cactcatgga tctctgctac tctccgtca ttacccttaa gatgctggtg 300  
aactttgtgt cagagaaaaa catcatctcc tacgcagggt gcatgtcaca gctctacttc 360  
ttccttggtt ttgtcattgc tgagtgttac atgctgacag tgatggccta cgaccgctat 420  
gttgncttct gccacccttt gctttacaac atcattatgt ctcatcacac ctgcctgctg 480  
ctgggtggctg tgggtctacgc catcggaactc attggctcca caatagaaac tggcctcatg 540  
ttaaaactgc cctattgtga gcacctcatc agtcaactact tctgtgacat cctccctctc 600  
atgaagctgt cctgctctag cacctatgat gttgagatga cagtcttctt ttcggctgga 660  
ttcaacatca tagtcacgag cttaacagtt cttgtttctt acaccttcat tctctccagc 720  
atcctcggca tcagcaccac agaggggaga tccaaagcct tcagcacctg cagctcccac 780  
cttgagccg tgggaatgtt ctatggatca actgcattca tgtacttaaa accctccaca 840  
atcagttcct tgaccagga gaatgtggcc tctgtgttct acaccacggt aatccccatg 900  
ttgaatcccc taatctacag cctgaggaac aaggaagtaa aggctgccgt gcagaaaacg 960  
ctgaggggta aactgttttg a 981

<210> 59  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 59  
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly  
1 5 10 15  
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu  
20 25 30  
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu  
35 40 45  
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys  
50 55 60  
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val  
65 70 75 80  
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly  
85 90 95  
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys

100	105	110
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser		
115	120	125
Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu		
130	135	140
Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Trp Thr Phe Ile		
145	150	155
Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His		
165	170	175
Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp		
180	185	190
Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val		
195	200	205
Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr		
210	215	220
Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr		
225	230	235
Cys Thr Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Thr		
245	250	255
Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys		
260	265	270
Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu		
290	295	300
Leu Arg Ile Lys Ile Phe Ser		
305	310	

<210> 60  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 60  
 atgggggactg gaaatgacac cactgtggta gagtttactc ttttgggggtt atctgaggat 60  
 actacagttt gtgctatttt atttcttgtg tttctaggaa tttatgttgt caccttaatg 120  
 ggtaaatca gcataattgt attgatcaga agaagtcac atcttcatac acccatgtac 180  
 attttcctct gccatttggc cttttagtagac attgggtact cctcatcagt cacacctgtc 240  
 atgctcatga gcttcctaag gaaagaaacc tctctccctg ttgctgggtg tgtggcccag 300  
 ctctgttctg tagtgacgtt tggtagcgcc gagtgcttcc tgctggctgc catggcctat 360  
 gatcgctatg tggccatctg ctcacccctg ctctactcta cctgcatgtc ccctggagtc 420  
 tgcacatct tagtgggcat gtcctacctg ggtggatgtg tgaatgcttg gacattcatt 480  
 ggctgcttat taagactgtc cttctgtggg ccaaataaag tcaatcactt tttctgtgac 540  
 tattcaccac ttttgaagct tgcttgttcc catgatttta cttttgaaat aattccagct 600  
 atctcttctg gatctatcat tgtggccact gtgtgtgtca tagccatata ctacatctat 660  
 atcctcatca ccatactgaa gatgcactcc accaagggcc gccacaaggc cttctccacc 720  
 tgcacctccc acctcactgc agtcactctg ttctatggga ccattacctt catttatgtg 780

atgcccaagt ccagctactc aactgaccag aacaagggtgg tgtctgtgtt ctacaccgtg 840  
 gtgattccca tgttgaaccc cctgatctac agcctcagga acaaggagat taaggggggt 900  
 ctgaagagag agcttagaat aaaaatattt tcttga 936

<210> 61  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 61  
 Met Asn Ser Leu Lys Asp Gly Asn His Thr Ala Leu Thr Gly Phe Ile  
     1                    5                    10                    15  
 Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met  
                     20                    25                    30  
 Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser  
             35                    40                    45  
 Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe  
             50                    55                    60  
 Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn  
     65                    70                    75                    80  
 Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln  
                     85                    90                    95  
 Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala  
             100                    105                    110  
 Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr  
             115                    120                    125  
 Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val  
     130                    135                    140  
 Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr  
     145                    150                    155                    160  
 Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp  
                     165                    170                    175  
 Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr  
             180                    185                    190  
 Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys  
             195                    200                    205  
 Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met  
     210                    215                    220  
 Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His  
     225                    230                    235                    240  
 Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val  
             245                    250                    255  
 Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
             260                    265                    270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

Ile Thr

<210> 62  
 <211> 969  
 <212> DNA  
 <213> Homo sapiens

<400> 62  
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 acagatgatc caatccttcg agtcacccctc ttcatgatca tcctatctgg taatctcagc 120  
 ataattattc ttatcagaat ttcttctcag ctccatcatc ctatgtattt ctttctgagc 180  
 cacttggttt ttgctgacat ggcctattca tcttctgtca caccacaacat gcttgtaaac 240  
 ttcttggtgg agagaaatac agtctcctac cttggatgtg ccatccagct tgggtcagcg 300  
 gctttctttg caacagtcga atgcgtcctt ctggctgcca tggcctatga ccgctttgtg 360  
 gcaatttgca gtccactgct ttattcaacc aaaatgtcca cacaagtcag tgtccagcta 420  
 ctcttagtag ttacatagc tgggtttctc attgctgtct cctatactac ttcttcttat 480  
 tttttactct tctgtggacc aaatcaagtc aatcattttt tctgtgattt cgctccctta 540  
 cttgaactct cctgttctga tatcagtgtc tccacagttg ttctctcatt ttcttctgga 600  
 tccatcattg tggctactgt gtgtgtcata gccgtctgct acatctatat cctcatcacc 660  
 atcctgaaga tgcgtccac tgaggggcac cacaaggcct tctccacctg cacttcccac 720  
 ctactgtggg ttaccctgtt ctatgggacc attaccttca tttatgtgat gcccaatttt 780  
 agctactcaa ctgaccagaa caaggtggtg tctgtgttgt acacagtggg gattcccatg 840  
 ttgaaccccc tgatctacag cctcaggaac aaggagatta agggggctct gaagagagag 900  
 cttgttagaa aaatactttc tcatgatgct tgttatttta gtagaacttc aaataatgat 960  
 attacatag 969

<210> 63  
 <211> 332  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp  
 1 5 10 15  
 Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His  
 20 25 30  
 Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu  
 35 40 45  
 Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly  
 50 55 60  
 Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met  
 65 70 75 80  
 Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys

85

90

95

Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile  
100 105 110

Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu  
115 120 125

Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe  
130 135 140

Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg  
145 150 155 160

Val Cys Asn Ser Leu Ala Leu Gly Thr Trp Leu Gly Gly Thr Ile His  
165 170 175

Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro  
180 185 190

Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu  
195 200 205

Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile  
210 215 220

Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly  
225 230 235 240

Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg  
245 250 255

Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr  
260 265 270

Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro  
275 280 285

Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu  
290 295 300

Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu  
305 310 315 320

Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His  
325 330

&lt;210&gt; 64

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 64

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gaactgcaaa gtggaaacca gacttctgtg tctcacttca ttttggtggg cctgcaccac 120  
ccaccacagc tgggagcgcc actcttctta gctttccttg tcatctatct cctcactgtt 180  
tctggaaatg ggctcatcat cctcactgtc ttagtggaca tccggctcca tcgtcccatg 240  
tgcttgttcc tgtgtcacct ctccttcttg gacatgacca tttcttgtgc tattgtcccc 300  
aagatgctgg ctggctttct cttgggtagt aggattatct cctttggggg ctgtgtaatc 360  
caactatttt ctttccattt cctgggctgt actgagtgtc tcctttacac actcatggct 420

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tatgaccgtt tccttgccat ttgtaagccc ttacactatg ctaccatcat gacccacaga 480
gtctgtaact ccctggcttt aggcacctgg ctgggagggg ctatccattc actttttccaa 540
acaagttttg tattccggct gcccttctgt ggccccaatc gggtcgacta catcttctgt 600
gacattcctg ccatgctgcg tctagcctgc gccgatacgg ccatcaacga gctggtcacc 660
tttgacagaca ttggcttcct ggccctcacc tgcttcatgc tcatcctcac ttcctatggc 720
tatattgtag ctgccatcct gcgaattccg tcagcagatg ggcgcgcgcaa tgccttctcc 780
acttgtgctg cccacctcac tgttgctcatt gtttactatg tgccctgcac cttcatttac 840
ctgcggcctt gttcacagga gccctgggat ggggtggtag ctgtctttta cactgtcatc 900
actcccttgc ttaactccat catctacaca ctgtgcaaca aagaaatgaa ggcagcatta 960
cagaggctag ggggccacaa ggaagtgcag cctcactga 999

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<210> 65  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

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<400> 65
Met Glu Pro Leu Asn Arg Thr Glu Val Ser Glu Phe Phe Leu Lys Gly
  1              5              10              15

Phe Ser Gly Tyr Pro Ala Leu Glu His Leu Leu Phe Pro Leu Cys Ser
      20              25              30

Ala Met Tyr Leu Val Thr Leu Leu Gly Asn Thr Ala Ile Met Ala Val
      35              40              45

Ser Val Leu Asp Ile His Leu His Thr Pro Val Tyr Phe Phe Leu Gly
      50              55              60

Asn Leu Ser Thr Leu Asp Ile Cys Tyr Thr Pro Thr Phe Val Pro Leu
      65              70              75              80

Met Leu Val His Leu Leu Ser Ser Arg Lys Thr Ile Ser Phe Ala Val
      85              90              95

Cys Ala Ile Gln Met Cys Leu Ser Leu Ser Thr Gly Ser Thr Glu Cys
      100              105              110

Leu Leu Leu Ala Ile Thr Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gln
      115              120              125

Pro Leu Arg Tyr His Val Leu Met Ser His Arg Leu Cys Val Leu Leu
      130              135              140

Met Gly Ala Ala Trp Val Leu Cys Leu Leu Lys Ser Val Thr Glu Met
      145              150              155              160

Val Ile Ser Met Arg Leu Pro Phe Cys Gly His His Val Val Ser His
      165              170              175

Phe Thr Cys Lys Ile Leu Ala Val Leu Lys Leu Ala Cys Gly Asn Thr
      180              185              190

Ser Val Ser Glu Asp Phe Leu Leu Ala Gly Ser Ile Leu Leu Leu Pro
      195              200              205

Val Pro Leu Ala Phe Ile Cys Leu Ser Tyr Leu Leu Ile Leu Ala Thr
      210              215              220

Ile Leu Arg Val Pro Ser Ala Ala Arg Cys Cys Lys Ala Phe Ser Thr

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65	70	75	80
Phe Leu Thr Val Met	Ala Tyr Asp Cys	Phe Val Ala Ile Cys	Arg Pro
85	90	95	
Leu His Tyr Pro Val	Ile Val Asn Pro	His Leu Cys Val	Phe Phe Val
100	105	110	
Leu Val Ser Phe Phe	Leu Ser Leu Leu	Asp Ser Gln Leu	His Ser Trp
115	120	125	
Ile Val Leu Gln Phe	Thr Phe Phe Lys	Asn Val Glu Ile	Ser Asn Phe
130	135	140	
Val Cys Glu Pro Ser	Gln Leu Leu Lys	Leu Ala Ser Tyr	Asp Ser Val
145	150	155	160
Ile Asn Ser Ile Phe	Ile Tyr Phe Asp	Asn Thr Met Phe	Gly Phe Leu
165	170	175	
Pro Ile Ser Gly Ile	Leu Leu Ser Tyr	Tyr Lys Ile Val	Pro Ser Ile
180	185	190	
Leu Arg Ile Ser Ser	Ser Asp Gly Lys	Tyr Lys Ala Phe	Ser Ala Cys
195	200	205	
Gly Cys His Leu Ala	Val Val Cys Leu	Phe Tyr Gly Thr	Gly Ile Gly
210	215	220	
Val Tyr Leu Thr Ser	Ala Val Ala Pro	Pro Leu Arg Asn	Gly Met Val
225	230	235	240
Ala Ser Val Met Tyr	Ala Val Val Thr	Pro Met Leu Asn	Pro Phe Ile
245	250	255	
Tyr Ser Leu Arg Asn	Arg Asp Ile Gln	Ser Ala Leu Trp	Arg Val Cys
260	265	270	
Asn Lys Thr Val Glu	Ser His Asp Leu	Phe His Pro Phe	Ser Cys Val
275	280	285	
Val Glu Lys Gly Gln	Pro His Ser Ile	Pro Thr Ser Ala	Asn Pro Ala
290	295	300	

Pro  
305

<210> 68  
 <211> 918  
 <212> DNA  
 <213> Homo sapiens

<400> 68  
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 cacccccaca caccatgta cttcttcctc tccaacctgt gctgggctga catcggtttc 120  
 accttggcca cggttcccaa aatgattgtg gacatggggg cgcatagcaa agtcatctct 180  
 tatgggggct gcctgacaca gatgtctttc ttggtacttt ttgcatgtat agtagacatg 240  
 ttcttgactg tgatggctta tgactgcttt gtagccatct gtcgccctct gcactacca 300  
 gtcacgtga atcctcacct ctgtgtcttc ttcggttttg tgtccttttt ccttagcctg 360  
 ttggattccc agctgcacag ttggattgtg ttacaattca ctttcttcaa gaatgtggaa 420

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atctctaatt ttgtctgtga gccatctcaa cttctcaagc ttgcctctta tgacagcgtc 480
atcaatagca tattcatata ttttgataat actatgtttg gttttcttcc catttcaggg 540
atccttttgt cttactataa aattgtcccc tccattctaa ggatttcatc atcagatggg 600
aagtacaaag cttcttcagc ctgtggctgt cacctggcag ttgtttgctt attttatgga 660
acaggcattg gcgtgtacct gacttcagct gtggcaccac ccctcaggaa tggatatgtg 720
gcgtcagtga tgtacgctgt ggtcaccccc atgctgaacc ctttcatcta cagcctgaga 780
aacagggaca ttcaaagtgc cctgtggagg gtgtgcaaca aaacagtcga atctcatgat 840
ctgttccatc ctttttcttg tgtggttgag aaagggaac cacattcaat ccctacatct 900
gcaaatacctg ccccttag                                     918

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<210> 69  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

<400> 69

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Met Glu Lys Ala Asn Glu Thr Ser Pro Val Met Gly Phe Val Leu Leu
  1              5              10              15

Arg Leu Ser Ala His Pro Glu Leu Glu Lys Thr Phe Phe Val Leu Ile
      20              25              30

Leu Leu Met Tyr Leu Val Ile Leu Leu Gly Asn Gly Val Leu Ile Leu
      35              40              45

Val Thr Ile Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu
      50              55              60

Gly Asn Leu Ser Phe Leu Asp Ile Cys Phe Thr Thr Ser Ser Val Pro
      65              70              75              80

Leu Val Leu Asp Ser Phe Leu Thr Pro Gln Glu Thr Ile Ser Phe Ser
      85              90              95

Ala Cys Ala Val Gln Met Ala Leu Ser Phe Ala Met Ala Gly Thr Glu
      100             105             110

Cys Leu Leu Leu Ser Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys
      115             120             125

Asn Pro Leu Arg Tyr Ser Val Ile Met Ser Lys Ala Ala Tyr Met Pro
      130             135             140

Met Ala Ala Ser Ser Trp Ala Ile Gly Gly Ala Ala Ser Val Val His
      145             150             155             160

Thr Ser Leu Ala Ile Gln Leu Pro Phe Cys Gly Asp Asn Val Ile Asn
      165             170             175

His Phe Thr Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp
      180             185             190

Ile Ser Ile Asn Val Ile Ser Met Glu Val Thr Asn Val Ile Phe Leu
      195             200             205

Gly Val Pro Val Leu Phe Ile Ser Phe Ser Tyr Val Phe Ile Ile Thr
      210             215             220

Thr Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg Lys Lys Val Phe Ser
      225             230             235             240

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Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His Pro  
                     85                    90                    95  
 Leu His Tyr Pro Val Ile Met Asn Pro His Leu Gly Val Phe Leu Val  
                     100                    105                    110  
 Leu Val Ser Phe Phe Leu Ser Leu Leu Asp Ser Gln Leu His Ser Trp  
                     115                    120                    125  
 Ile Val Leu Gln Phe Thr Phe Phe Lys Asn Val Glu Ile Ser Asn Phe  
                     130                    135                    140  
 Val Cys Asp Pro Ser Gln Leu Leu Asn Leu Ala Cys Ser Asp Ser Val  
 145                    150                    155                    160  
 Ile Asn Ser Ile Phe Ile Tyr Leu Asp Ser Ile Met Phe Gly Phe Leu  
                     165                    170                    175  
 Pro Ile Ser Gly Ile Leu Leu Ser Tyr Ala Asn Asn Val Pro Ser Ile  
                     180                    185                    190  
 Leu Arg Ile Ser Ser Ser Asp Arg Lys Ser Lys Ala Phe Ser Thr Cys  
                     195                    200                    205  
 Gly Ser His Leu Ala Val Val Cys Leu Phe Tyr Gly Thr Gly Ile Gly  
                     210                    215                    220  
 Val Tyr Leu Thr Ser Ala Val Ser Pro Pro Pro Arg Asn Gly Val Val  
 225                    230                    235                    240  
 Ala Ser Val Met Tyr Ala Val Val Thr Pro Met Leu Asn Pro Phe Ile  
                     245                    250                    255  
 Tyr Ser Leu Arg Asn Arg Asp Ile Gln Ser Ala Leu Trp Arg Leu Arg  
                     260                    265                    270  
 Ser Arg Thr Val Glu Ser His Asp Leu Leu Ser Gln Asp Leu Leu His  
                     275                    280                    285  
 Pro Phe Ser Cys Val Gly Glu Lys Gly Gln Pro His  
                     290                    295                    300

<210> 72  
 <211> 903  
 <212> DNA  
 <213> Homo sapiens

<400> 72  
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 cacctccaca ccccatgtg cttcttcttc tccaacctgt gctgggctga catcggtttc 120  
 acctcggcca tggttcccaa gatgattgtg gacatgcagt cgcatagcag agtcactctc 180  
 tatgcgggct gcctgacaca gatgtctttc tttgtccttt ttgcatgtat agaagacatg 240  
 ctcttgacag tgatggccta tgaccgattt gtggccatct gtcaccccct gcactaccca 300  
 gtcacatga atcctcacct tgggtgtcttc ttagtttttg tgtccttttt cctcagcctg 360  
 ttggattccc agctgcacag ttggattgtg ttacaattca ccttcttcaa gaatgtggaa 420  
 atctccaatt ttgtctgtga cccatctcaa cttctcaacc ttgcctgttc tgacagtgtc 480  
 atcaatagca tattcatata tttagatagt attatgtttg gttttcttcc catttcaggg 540  
 atccttttgt cttacgctaa caatgtcccc tccattctaa gaatttcac atcagatagg 600  
 aagtctaaag ctttctccac ctgtggctct cacctggcag ttgtttgctt attttatgga 660

acaggcattg gcgtgtacct gacttcagct gtgtcaccac cccccaggaa tgggtgtggtg 720  
gcatcagtga tgtacgtgt ggtcaccccc atgctgaacc ctttcatcta cagcctgaga 780  
aatagggaca ttcaaagtgc cctgtggagg ctgcgagca gaacagtcga atctcatgat 840  
ctgttatctc aagatctgct ccatcctttt tcttgtgtgg gtgagaaagg tcaaccacat 900  
taa 903

<210> 73  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 73  
Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly  
1 5 10 15  
Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
20 25 30  
Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
35 40 45  
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60  
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80  
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly  
85 90 95  
Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys  
100 105 110  
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser  
115 120 125  
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu  
130 135 140  
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly  
145 150 155 160  
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His  
165 170 175  
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr  
180 185 190  
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val  
195 200 205  
Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser  
210 215 220  
Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr  
225 230 235 240  
Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met  
245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys  
260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu  
290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly  
305 310

<210> 74  
<211> 945  
<212> DNA  
<213> Homo sapiens

<400> 74  
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tatttcctga gtagtttgct ttttttagat ttctgctatt cttctgtcat taccctaaa 240  
atgctatcag ggtttttatg cagagataga tccatctcct attctggatg catgattcag 300  
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gatcgctacg tggccatctg cagcccactg ctctacaggg tcatcatgtc ccctagggtc 420  
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attgtccctc ttattaaact ctctgctcc agcacttata ttgatgagct tttgattttt 600  
gtcattgggtg gatttaacat ggtggccaca agcctaacaa tcattatttc atatgctttt 660  
atcctcacca gcatcctgcy catccactct aaaaagggca ggtgcaaagc gtttagcacc 720  
tgtagctccc acctgacagc tgttcttatg ttttatgggt ctctgatgtc catgtatctc 780  
aaacctgctt ctagcagttc actcaccagc gagaaagtat cctcagtatt ttataccact 840  
gtgattctca tgttgaatcc cttgatatat agtctgagga acaatgaagt aagaaatgct 900  
ctgatgaaac ttttaagaag aaaaatatct ttatctccag gataa 945

<210> 75  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 75  
Met Ser Asn Ala Thr Leu Leu Thr Ala Phe Ile Leu Thr Gly Leu Pro  
1 5 10 15

His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val  
20 25 30

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
35 40 45

Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
50 55 60

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
65 70 75 80

Met Thr Leu Val Ser Pro Ser Gly Arg Thr Ile Ser Phe His Ser Cys  
85 90 95

Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
 100 105 110  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125  
 Leu Arg Tyr Thr Asn Met Met Thr Gly Arg Ser Cys Ala Leu Leu Ala  
 130 135 140  
 Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175  
 Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190  
 Ala Asn Glu Met Val Ile Phe Val Asn Ile Gly Leu Val Ala Ser Gly  
 195 200 205  
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220  
 Leu Arg Ile Arg Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
 225 230 235 240  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe  
 245 250 255  
 Ile Tyr Leu Arg Pro Gly Ser Arg Asp Ala Leu His Gly Val Val Ala  
 260 265 270  
 Val Phe Tyr Thr Thr Leu Thr Pro Leu Phe Asn Pro Val Val Tyr Thr  
 275 280 285  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asn Gly  
 290 295 300  
 Ser Val Phe Ala Gln Gly Glu  
 305 310

<210> 76  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 76  
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 ctcaccaacc tgtccttcat tgacatgtgg ttctccactg tcacgggtgcc caaaatgctg 240  
 atgaccttgg tgtccccaag cggcaggact atctccttcc acagctgcgt ggctcagctc 300  
 tattttttcc acttcttggg gagcaccgag tgtttcctct acacagtcac gtccctatgat 360  
 cgctacctgg ccatcagtta cccgctcagg tacaccaaca tgatgactgg gcgctcgtgt 420  
 gccctcctgg ccaccggcac ttggctcagt ggctctctgc actctgctgt ccagaccata 480  
 ttgactttcc atttgcctca ctgtggaccc aaccagatcc agcactactt ctgtgacgca 540  
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 aatattgggc tagtggcctc gggctgcttt gtcctgatag tgctgtccta tgtgtccatc 660  
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gcctcccact gtatcgtagt cctttgcttc tttggccctg gtcttttcat ttacctgagg 780  
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ctgaaaaaatg ggtagtatt tgctcagggt gaatag 936

<210> 77  
<211> 323  
<212> PRT  
<213> Homo sapiens

<400> 77  
Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly  
1 5 10 15  
Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met  
20 25 30  
Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu  
35 40 45  
Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg  
50 55 60  
Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys  
65 70 75 80  
Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser  
85 90 95  
Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe  
100 105 110  
Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg  
115 120 125  
Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu  
130 135 140  
Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr  
145 150 155 160  
Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His  
165 170 175  
Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr  
180 185 190  
His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu  
195 200 205  
Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr  
210 215 220  
Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr  
225 230 235 240  
Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile  
245 250 255  
Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys

260

265

270

Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe  
 275 280 285

Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala  
 290 295 300

Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser  
 305 310 315 320

Gln Arg Lys

<210> 78

<211> 972

<212> DNA

<213> Homo sapiens

<400> 78

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agttggccct tgctcagget ttcttggtgg gacacccacc tgctgaaact ggtggctttc 600
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caaaggaaat ga 972

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<210> 79

<211> 318

<212> PRT

<213> Homo sapiens

<400> 79

Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly  
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Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser  
 20 25 30

Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile  
 35 40 45

Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg  
 65 70 75 80

Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly  
                     85                    90                    95  
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile  
                     100                    105                    110  
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln  
                     115                    120                    125  
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu  
                     130                    135                    140  
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile  
                     145                    150                    155                    160  
 Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn  
                     165                    170                    175  
 Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr  
                     180                    185                    190  
 Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu  
                     195                    200                    205  
 Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met  
                     210                    215                    220  
 Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys  
                     225                    230                    235                    240  
 Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr  
                     245                    250                    255  
 Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser  
                     260                    265                    270  
 Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr  
                     275                    280                    285  
 Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg  
                     290                    295                    300  
 Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His  
                     305                    310                    315

<210> 80  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 80  
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 ggaaaccttc ttattgtggt catagtgacc tccgaccac acctgcacac aaccatgtat 180  
 tttctcttgg gcaatctttc tttcctggac ttttgctact cttccatcac agcacctagg 240  
 atgctgggtg acttgctctc aggcaacctt accatttcct ttggtggatg cctgactcaa 300  
 ctcttcttct tccacttcat tggaggcatc aagatcttcc tgctgactgt catggcgtat 360  
 gaccgctaca ttgccatttc ccagcccctg cactacacgc tcattatgaa tcagactgtc 420  
 tgtgcactcc ttatggcagc ctctctgggtg gggggcttca tccactccat agtacagatt 480  
 gcattgacta tccagctgcc attctgtggg cctgacaagc tggacaactt ttattgtgat 540

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<210> 81  
 <211> 324  
 <212> PRT  
 <213> Homo sapiens

<400> 81  
 Met Gln Lys Pro Gln Leu Leu Val Pro Ile Ile Ala Thr Ser Asn Gly  
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 Asn Leu Val His Ala Ala Tyr Phe Leu Leu Val Gly Ile Pro Gly Leu  
 20 25 30  
 Gly Pro Thr Ile His Phe Trp Leu Ala Phe Pro Leu Cys Phe Met Tyr  
 35 40 45  
 Ala Leu Ala Thr Leu Gly Asn Leu Thr Ile Val Leu Ile Ile Arg Val  
 50 55 60  
 Glu Arg Arg Leu His Glu Pro Met Tyr Leu Phe Leu Ala Met Leu Ser  
 65 70 75 80  
 Thr Ile Asp Leu Val Leu Ser Ser Ile Thr Met Pro Lys Met Ala Ser  
 85 90 95  
 Leu Phe Leu Met Gly Ile Gln Glu Ile Glu Phe Asn Ile Cys Leu Ala  
 100 105 110  
 Gln Met Phe Leu Ile His Ala Leu Ser Ala Val Glu Ser Ala Val Leu  
 115 120 125  
 Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg  
 130 135 140  
 His Ala Ser Val Leu Thr Gly Cys Thr Val Ala Lys Ile Gly Leu Ser  
 145 150 155 160  
 Ala Leu Thr Arg Gly Phe Val Phe Phe Phe Pro Leu Pro Phe Ile Leu  
 165 170 175  
 Lys Trp Leu Ser Tyr Cys Gln Thr His Thr Val Thr His Ser Phe Cys  
 180 185 190  
 Leu His Gln Asp Ile Met Lys Leu Ser Cys Thr Asp Thr Arg Val Asn  
 195 200 205  
 Val Val Tyr Gly Leu Phe Ile Ile Leu Ser Val Met Gly Val Asp Ser  
 210 215 220  
 Leu Phe Ile Gly Phe Ser Tyr Ile Leu Ile Leu Trp Ala Val Leu Glu  
 225 230 235 240  
 Leu Ser Ser Arg Arg Ala Ala Leu Lys Ala Phe Asn Thr Cys Ile Ser

245	250	255
His Leu Cys Ala Val Leu Val Phe Tyr Val Pro Leu Ile Gly Leu Ser		
260	265	270
Val Val His Arg Leu Gly Gly Pro Thr Ser Leu Leu His Val Val Met		
275	280	285
Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr		
290	295	300
Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser		
305	310	315
		320
Gln Gly Gly Lys		

<210> 82  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 82  
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 gctttccac tgtgttttat gtatgccttg gccaccctgg gtaacctgac cattgtcctc 180  
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 caaggtggca agtga 975

<210> 83  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 83  
 Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile  
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 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
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 Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45  
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile  
 65 70 75 80  
 Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys  
 85 90 95  
 Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr  
 100 105 110  
 Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro  
 115 120 125  
 Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly  
 130 135 140  
 Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu  
 145 150 155 160  
 Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser  
 165 170 175  
 Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu  
 180 185 190  
 Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val  
 195 200 205  
 Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val  
 210 215 220  
 Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys  
 225 230 235 240  
 Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly  
 245 250 255  
 Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg  
 260 265 270  
 Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro  
 275 280 285  
 Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala  
 290 295 300  
 Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys  
 305 310 315 320

<210> 84  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 84  
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 aactgcatcg tgggtcttcac cgtaaggacg gaacgcagcc tgcacgctcc gatgtacctc 180  
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 cttgcccttt tctgggttg ttcccgagag attagctttg aggcctgtct taccagatg 300  
 ttctttattc atgccctctc agccattgaa tccaccatcc tgctggccat ggcctttgac 360

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caccgctttg gaaacagcct tcatccatt gtgcgtgttg tcatgggtga catctacctg 840
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cgggtgctgg ctatgttcaa gatcagctgt gacaaggact tgcaggctgt gggaggcaag 960
tga

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<210> 85  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

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<400> 85
Met Leu Pro Ser Asn Ile Thr Ser Thr His Pro Ala Val Phe Leu Leu
  1              5              10              15

Val Gly Ile Pro Gly Leu Glu His Leu His Ala Trp Ile Ser Ile Pro
      20              25              30

Phe Cys Phe Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
      35              40              45

Phe Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
      50              55              60

Leu Ala Met Leu Ala Thr Ile Asp Leu Val Leu Ser Ser Thr Thr Leu
      65              70              75              80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Gln Glu Ile Asn Phe
      85              90              95

Phe Ala Cys Leu Val Gln Met Phe Phe Leu His Ser Phe Ser Ile Met
      100              105              110

Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
      115              120              125

Cys Lys Pro Leu His Tyr Thr Thr Val Leu Thr Gly Ser Leu Ile Thr
      130              135              140

Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro
      145              150              155              160

Leu Pro Phe Leu Leu Arg Arg Phe His Tyr Cys Arg Gly Pro Val Ile
      165              170              175

Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly
      180              185              190

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ser
      195              200              205

Val Val Leu Asp Leu Leu Phe Val Ile Leu Ser Tyr Val Phe Ile Leu
      210              215              220

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Gln Ala Val Leu Gln Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe  
 225 230 235 240  
 Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ser Thr Tyr Thr Pro  
 245 250 255  
 Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro  
 260 265 270  
 Arg Val His Ile Leu Leu Ala Ile Phe Tyr Leu Leu Phe Pro Pro Met  
 275 280 285  
 Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Tyr  
 290 295 300  
 Val Leu Ser Leu Phe Gln Arg Lys Asn Met  
 305 310

<210> 86  
 <211> 1400  
 <212> DNA  
 <213> Homo sapiens

<400> 86  
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 gaaccatgt acctctttct ggccatggtg gcaaccattg acttggttct ttcttctaca 360  
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 tgtctggtcc agatgttctt ccttcaactcc ttctccatca tggagtcagc agtgctgctg 480  
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 <211> 384  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MOD\_RES  
 <222> (68)  
 <223> Any amino acid



<400> 87

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			20					25					30			
Gln	Gly	Leu	Ser	Gly	Asn	Pro	His	Ser	Thr	Thr	Ser	Arg	Met	Tyr	Phe	
		35					40					45				
Leu	Cys	Phe	Cys	Thr	Ser	Leu	Leu	Gly	Phe	Lys	Val	His	Trp	Val	Ser	
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Arg	Leu	Ile	Xaa	Lys	Leu	Tyr	Met	Ala	Ser	Pro	Asn	Asn	Asp	Ser	Thr	
65					70					75					80	
Ala	Pro	Val	Ser	Glu	Phe	Leu	Leu	Ile	Cys	Phe	Pro	Asn	Phe	Gln	Ser	
				85					90					95		
Trp	Gln	His	Trp	Leu	Ser	Leu	Pro	Leu	Ser	Leu	Leu	Phe	Leu	Leu	Ala	
			100					105					110			
Met	Gly	Ala	Asn	Thr	Thr	Leu	Leu	Ile	Thr	Ile	Gln	Leu	Glu	Ala	Ser	
		115					120					125				
Leu	His	Gln	Pro	Leu	Tyr	Tyr	Leu	Leu	Ser	Leu	Leu	Ser	Leu	Leu	Asp	
	130					135					140					
Ile	Val	Leu	Cys	Leu	Thr	Val	Ile	Pro	Lys	Val	Leu	Ala	Ile	Phe	Trp	
145					150					155					160	
Phe	Asp	Leu	Arg	Ser	Ile	Ser	Phe	Pro	Ala	Cys	Phe	Leu	Gln	Met	Phe	
				165					170					175		
Ile	Met	Asn	Ser	Phe	Leu	Thr	Met	Glu	Ser	Cys	Thr	Phe	Met	Val	Met	
			180					185					190			
Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Pro	Ser	
		195					200					205				
Ile	Ile	Thr	Asp	Gln	Phe	Val	Ala	Arg	Ala	Val	Val	Phe	Val	Ile	Ala	
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Arg	Asn	Ala	Phe	Val	Ser	Leu	Pro	Val	Pro	Met	Leu	Ser	Ala	Arg	Leu	
225					230					235					240	
Arg	Tyr	Cys	Ala	Gly	Asn	Ile	Ile	Lys	Asn	Cys	Ile	Cys	Ser	Asn	Leu	
				245					250					255		
Ser	Val	Ser	Lys	Leu	Ser	Cys	Asp	Asp	Ile	Thr	Phe	Asn	Gln	Leu	Tyr	
			260					265					270			
Gln	Phe	Val	Ala	Gly	Trp	Thr	Leu	Leu	Gly	Ser	Asp	Leu	Ile	Leu	Ile	
		275					280					285				
Val	Ile	Ser	Tyr	Ser	Phe	Ile	Leu	Lys	Val	Val	Leu	Arg	Ile	Lys	Ala	
	290					295					300					
Glu	Gly	Ala	Val	Ala	Lys	Ala	Leu	Ser	Thr	Cys	Gly	Ser	His	Phe	Ile	
305					310					315					320	



Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe  
 50 55 60  
 Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu  
 65 70 75 80  
 Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe  
 85 90 95  
 Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met  
 100 105 110  
 Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125  
 Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr  
 130 135 140  
 Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro  
 145 150 155 160  
 Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile  
 165 170 175  
 Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly  
 180 185 190  
 Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile  
 195 200 205  
 Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu  
 210 215 220  
 Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe  
 225 230 235 240  
 Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr  
 245 250 255  
 Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro  
 260 265 270  
 His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met  
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<210> 90  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

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 ctgcttggaactgcactct ccttctcatc atccaggctg atgcagccct ccatgaaccc 180

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gcccagatgt tcttccttca ctccttctcc atcatggagt cagcagtgtg gctggccatg 360
gcctttgacc gctatgtggc tatctgcaag ccactgcact acaccaaggt cctgactggg 420
tccctcatca ccaagattgg catggctgct gtggcccggt ctgtgacact aatgactcca 480
ttccccctcc tgctgagatg tttccactac tgccgaggcc cagtgatcgc tcaactgtac 540
tgtgaacaca tggctgtggt gaggtggcg tgtggggaca ctacttcaa caatatctat 600
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gggacatgtg tctctcatat aggtgccatc ttagccttct acacaactgt ggtcatctct 780
tcagtcacgc accgtgtagc ccgccatgct gcccctcatg tccacatcct ccttgccaat 840
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<210> 91

<211> 318

<212> PRT

<213> Homo sapiens

<400> 91

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Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe
      20             25             30

Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile
      35             40             45

Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile
      50             55             60

Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser
      65             70             75             80

Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln
      85             90             95

Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly
      100            105            110

Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
      115            120            125

Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val
      130            135            140

Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala
      145            150            155            160

Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile
      165            170            175

Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys
      180            185            190

Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser
      195            200            205

Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile

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210                      215                      220  
 Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe  
 225                      230                      235                      240  
 Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro  
                     245                      250                      255  
 Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser  
                     260                      265                      270  
 Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val  
                     275                      280                      285  
 Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg  
                     290                      295                      300  
 Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro  
 305                      310                      315

<210> 92  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 92  
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 gctgtgctag gtaacttgac aatcatctac attgtgcgga ctgagcacag cctgcatgag 180  
 cccatgtata tatttctttg catgctttca ggcattgaca tctcatctc cacctcatcc 240  
 atgccccaaa tgctggccat cttctgggttc aattccacta ccattccagtt tgatgcttgt 300  
 ctgctacaga tggttgccat ccactcctta tctggcatgg aatccacagt gctgctggcc 360  
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 ttgcctcgtg tcacaaaaat tgggtgtggt gctgtggtgc ggggggctgc actgatggca 480  
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 tactgcctac accaagatgt catgaagctg gcctgtgatg atatccgggt caatgtcgtc 600  
 tatggcctta tcgtcatcat ctccgccatt ggcttggtgact cacttctcat ctcttctca 660  
 tatctgctta ttcttaagac tgtgttgggc ttgacacgtg aagcccaggc caaggcattt 720  
 ggcacttgcg tctctcatgt gtgtgctgtg ttcatattct atgtaccttt cattggattg 780  
 tccatggtgc atcgcttttag caagcggcgt gactctccgc tgcccgtcat cttggccaat 840  
 atctatctgc tggttcctcc tgtgtccaac ccaattgtct atggagtga gacaaaggag 900  
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<210> 93  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 93  
 Met Leu Thr Phe His Asn Val Cys Ser Val Pro Ser Ser Phe Trp Leu  
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 Thr Gly Ile Pro Gly Leu Glu Ser Leu His Val Trp Leu Ser Ile Pro  
                     20                      25                      30  
 Phe Gly Ser Met Tyr Leu Val Ala Val Val Gly Asn Val Thr Ile Leu  
                     35                      40                      45  
 Ala Val Val Lys Ile Glu Arg Ser Leu His Gln Pro Met Tyr Phe Phe

50	55	60
Leu Cys Met Leu Ala Ala Ile Asp Leu Val Leu Ser Thr Ser Thr Ile 65 70 75 80		
Pro Lys Leu Leu Gly Ile Phe Trp Phe Gly Ala Cys Asp Ile Gly Leu 85 90 95		
Asp Ala Cys Leu Gly Gln Met Phe Leu Ile His Cys Phe Ala Thr Val 100 105 110		
Glu Ser Gly Ile Phe Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile 115 120 125		
Cys Asn Pro Leu Arg His Ser Met Val Leu Thr Tyr Thr Val Val Gly 130 135 140		
Arg Leu Gly Leu Val Ser Leu Leu Arg Gly Val Leu Tyr Ile Gly Pro 145 150 155 160		
Leu Pro Leu Met Ile Arg Leu Arg Leu Pro Leu Tyr Lys Thr His Val 165 170 175		
Ile Ser His Ser Tyr Cys Glu His Met Ala Val Val Ala Leu Thr Cys 180 185 190		
Gly Asp Ser Arg Val Asn Asn Val Tyr Gly Leu Ser Ile Gly Phe Leu 195 200 205		
Val Leu Ile Leu Asp Ser Val Ala Ile Ala Ala Ser Tyr Val Met Ile 210 215 220		
Phe Arg Ala Val Met Gly Leu Ala Thr Pro Glu Ala Arg Leu Lys Thr 225 230 235 240		
Leu Gly Thr Cys Ala Ser His Leu Cys Ala Ile Leu Ile Phe Tyr Val 245 250 255		
Pro Ile Ala Val Ser Ser Leu Ile His Arg Phe Gly Gln Cys Val Pro 260 265 270		
Pro Pro Val His Thr Leu Leu Ala Asn Phe Tyr Leu Leu Ile Pro Pro 275 280 285		
Ile Leu Asn Pro Ile Val Tyr Ala Val Arg Thr Lys Gln Ile Arg Glu 290 295 300		
Ser Leu Leu Gln Ile Pro Arg Ile Glu Met Lys Ile Arg 305 310 315		

<210> 94  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 94  
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 gtgggtggga atgtgacat cctggctgtg gtaaagatag aacgcagcct gcaccagccc 180  
 atgtactttt tcttgtgcat gttggctgcc attgacctgg ttctgtctac ttccactata 240

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cccaaacttc tgggaatctt ctggttcggt gcttgtgaca ttggcctgga cgcctgcttg 300
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gcttttgatc gctacgtggc catctgcaac ccactacgtc atagcatggg gctcacttat 420
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<210> 95  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

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<400> 95
Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met
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Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu
      20                      25                      30

Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
      35                      40                      45

Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
      50                      55                      60

Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
      65                      70                      75                      80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala
      85                      90                      95

Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr
      100                     105                     110

Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met
      115                     120                     125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
      130                     135                     140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
      145                     150                     155                     160

His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
      165                     170                     175

Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile
      180                     185                     190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
      195                     200                     205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val
      210                     215                     220

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Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu  
 225 230 235 240

Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe  
 245 250 255

Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro  
 260 265 270

Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His  
 275 280 285

His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala  
 290 295 300

Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln  
 305 310 315

<210> 96  
 <211> 960  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
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 agccagcact ggatcgcaact gcccctgggc atcctttacc tccttgctct agtgggcaat 180  
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 cacatcgga tgggtggtgct ggtgcgggga ttactactcc tcatccctt cctcattctg 540  
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 caggcagtg tgaaggatc aggaaatgag gcccgactta aggcctttag cacatgtggc 780  
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<210> 97  
 <211> 350  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Met Cys Gln Gln Ile Leu Arg Asp Cys Ile Leu Leu Ile His His Leu  
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Cys Ile Asn Arg Lys Lys Val Ser Leu Val Met Leu Gly Pro Ala Tyr  
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Asn His Thr Met Glu Thr Pro Ala Ser Phe Leu Leu Val Gly Ile Pro  
 35 40 45

Gly Leu Gln Ser Ser His Leu Trp Leu Ala Ile Ser Leu Ser Ala Met  
 50 55 60



Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile Ile Val Thr Ala Ile Trp  
 65 70 75 80  
 Met Asp Ser Thr Arg His Glu Pro Met Tyr Cys Phe Leu Cys Val Leu  
 85 90 95  
 Ala Ala Val Asp Ile Val Met Ala Ser Ser Val Val Pro Lys Met Val  
 100 105 110  
 Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile Ser Phe Ser Ala Cys Phe  
 115 120 125  
 Thr Gln Met Phe Phe Val His Leu Ala Thr Ala Val Glu Thr Gly Leu  
 130 135 140  
 Leu Leu Thr Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 145 150 155 160  
 His Tyr Lys Arg Ile Leu Thr Pro Gln Val Met Leu Gly Met Ser Met  
 165 170 175  
 Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile Thr Pro Leu Ser Trp Met  
 180 185 190  
 Val Ser His Leu Pro Phe Cys Gly Ser Asn Val Val Val His Ser Tyr  
 195 200 205  
 Cys Glu His Ile Ala Leu Ala Arg Leu Ala Cys Ala Asp Pro Val Pro  
 210 215 220  
 Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser Leu Met Val Gly Ser Asp  
 225 230 235 240  
 Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu Ile Leu Lys Ala Val Phe  
 245 250 255  
 Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys Ala Leu Ser Thr Cys Gly  
 260 265 270  
 Ser His Val Gly Val Met Ala Leu Tyr Tyr Leu Pro Gly Met Ala Ser  
 275 280 285  
 Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val Val Pro Leu His Thr Gln  
 290 295 300  
 Val Leu Leu Ala Asp Leu Tyr Val Ile Ile Pro Ala Thr Leu Asn Pro  
 305 310 315 320  
 Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu Arg Glu Arg Ile Trp Ser  
 325 330 335  
 Tyr Leu Met His Val Leu Phe Asp His Ser Asn Leu Gly Ser  
 340 345 350

<210> 98  
 <211> 1053  
 <212> DNA  
 <213> Homo sapiens

<400> 98

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ctgagtgcc a tgtacatcat agccctgtta ggaaacacca tcatcgtgac tgcaatctgg 240
atggattcca ctggcatga gcccatgtat tgctttctgt gtgttctggc tgctgtggac 300
attgttatgg cctcctcggt ggtacccaag atggtgagca tcttctgctc aggagacagc 360
tcaatcagct ttagtgcttg tttcactcag atgttttttg tccacttagc cacagctgtg 420
gagacggggc tgctgctgac catggctttt gaccgctatg tagccatctg caagcctcta 480
cactacaaga gaattctcac gcctcaagtg atgctgggaa tgagtatggc catcaccatc 540
agagctatca tagccataac tccactgagt tggatgggtga gtcactacc tttctgtggc 600
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gaccccgctc ccagcagctc ctacagctct attggttctt ctcttatggg gggctctgat 720
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ttgcacaccc aagtctgct agctgacctg tacgtgatca tcccagccac cttaaattccc 960
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<210> 99

<211> 324

<212> PRT

<213> Homo sapiens

<400> 99

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Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
 1             5             10             15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
      20             25             30

Ile Ser Leu Ser Ala Met Tyr Ile Thr Ala Leu Leu Gly Asn Thr Leu
      35             40             45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
      50             55             60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
      65             70             75             80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile
      85             90             95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr
      100            105            110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val
      115            120            125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val
      130            135            140

Met Leu Gly Met Ser Met Ala Val Thr Ile Arg Ala Val Thr Phe Met
      145            150            155            160

Thr Pro Leu Ser Trp Met Met Asn His Leu Pro Phe Cys Gly Ser Asn
      165            170            175

Val Val Val His Ser Tyr Cys Lys His Ile Ala Leu Ala Arg Leu Ala
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180	185	190
Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser		
195	200	205
Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu		
210	215	220
Ile Leu Arg Ala Val Phe Asp Leu Ser Ser Lys Thr Ala Gln Leu Lys		
225	230	235
Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr		
245	250	255
Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Ile		
260	265	270
Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile		
275	280	285
Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu		
290	295	300
Leu Glu Gly Ile Trp Ser Tyr Leu Met His Phe Leu Phe Asp His Ser		
305	310	315
		320

Asn Leu Gly Ser

<210> 100  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 100

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gagcccatgt	attgctttct	gtgtgttctg	gctgctgtgg	acattgttat	ggcctcctcc	240
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tcctactgta	agcacatagc	tttgccagg	ttagcatgtg	ctgaccccg	gcccagcagt	600
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gcattaagca	catgtggctc	ccatgtgggg	gttatggctt	tgtactatct	acctgggatg	780
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ctagctgacc	tgtacgtgat	catcccagcc	actttaaatc	ccatcatcta	tggcatgagg	900
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aacctggggt	catga					975

<210> 101  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 101

Met	Ser	Asp	Ser	Asn	Leu	Ser	Asp	Asn	His	Leu	Pro	Asp	Thr	Phe	Phe	1	5	10	15
Leu	Thr	Gly	Ile	Pro	Gly	Leu	Glu	Ala	Ala	His	Phe	Trp	Ile	Ala	Ile	20	25	30	
Pro	Phe	Cys	Ala	Met	Tyr	Leu	Val	Ala	Leu	Val	Gly	Asn	Ala	Ala	Leu	35	40	45	
Ile	Leu	Val	Ile	Ala	Met	Asp	Asn	Ala	Leu	His	Ala	Pro	Met	Tyr	Leu	50	55	60	
Phe	Leu	Cys	Leu	Leu	Ser	Leu	Thr	Asp	Leu	Ala	Leu	Ser	Ser	Thr	Thr	65	70	75	80
Val	Pro	Lys	Met	Leu	Ala	Ile	Leu	Trp	Leu	His	Ala	Gly	Glu	Ile	Ser	85	90	95	
Phe	Gly	Gly	Cys	Leu	Ala	Gln	Met	Phe	Cys	Val	His	Ser	Ile	Tyr	Ala	100	105	110	
Leu	Glu	Ser	Ser	Ile	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	115	120	125	
Ile	Cys	Asn	Pro	Leu	Arg	Tyr	Thr	Thr	Ile	Leu	Asn	His	Ala	Val	Ile	130	135	140	
Gly	Arg	Ile	Gly	Phe	Val	Gly	Leu	Phe	Arg	Ser	Val	Ala	Ile	Val	Ser	145	150	155	160
Pro	Phe	Ile	Phe	Leu	Leu	Arg	Arg	Leu	Pro	Tyr	Cys	Gly	His	Arg	Val	165	170	175	
Met	Thr	His	Thr	Tyr	Cys	Glu	His	Met	Gly	Ile	Ala	Arg	Leu	Ala	Cys	180	185	190	
Ala	Asn	Ile	Thr	Val	Asn	Ile	Val	Tyr	Gly	Leu	Thr	Val	Ala	Leu	Leu	195	200	205	
Ala	Met	Gly	Leu	Asp	Ser	Ile	Leu	Ile	Ala	Ile	Ser	Tyr	Gly	Phe	Ile	210	215	220	
Leu	His	Ala	Val	Phe	His	Leu	Pro	Ser	His	Asp	Ala	Gln	His	Lys	Ala	225	230	235	240
Leu	Ser	Thr	Cys	Gly	Ser	His	Ile	Gly	Ile	Ile	Leu	Val	Phe	Tyr	Ile	245	250	255	
Pro	Ala	Phe	Phe	Ser	Phe	Leu	Thr	His	Arg	Phe	Gly	His	His	Glu	Val	260	265	270	
Pro	Lys	His	Val	His	Ile	Phe	Leu	Ala	Asn	Leu	Tyr	Val	Leu	Val	Pro	275	280	285	
Pro	Val	Leu	Asn	Pro	Ile	Leu	Tyr	Gly	Ala	Arg	Thr	Lys	Glu	Ile	Arg	290	295	300	
Ser	Arg	Leu	Leu	Lys	Leu	Leu	His	Leu	Gly	Lys	Thr	Ser	Ile	305	310	315			

<210> 102  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 102  
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 gtgcccaga tgctggccat tttgtggctc catgctgggtg agatttcctt tgggtggatgc 300  
 ctggcccaga tgttttgtgt ccattctatc tatgctctgg agtcctcgat tctacttgcc 360  
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 cccttcactc tcttgctgag gcgactcccc tactgtgggtc accgtgtcat gacacacaca 540  
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 ctgagtacct gtggctccca cattggcatc atcctggttt tctacatccc tgccttcttc 780  
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 gctaactctc atgtgctggt gcctcctgta ctcaatccta ttctctatgg agctagaacc 900  
 aaggagattc ggagtcgact tctaaaactg cttcacctgg ggaagacttc aatatga 957

<210> 103  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens

<400> 103  
 Met Ser Phe Gln Val Thr Tyr Met Phe Tyr Leu His Trp Thr Met Glu  
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 Lys Ser Asn Asn Ser Thr Leu Phe Ile Leu Leu Gly Phe Ser Gln Asn  
 20 25 30  
 Lys Asn Ile Glu Val Leu Cys Phe Val Leu Phe Leu Phe Cys Tyr Ile  
 35 40 45  
 Ala Ile Trp Met Gly Asn Leu Leu Ile Met Ile Ser Ile Thr Cys Thr  
 50 55 60  
 Gln Leu Ile His Gln Pro Met Tyr Phe Phe Leu Asn Tyr Leu Ser Leu  
 65 70 75 80  
 Ser Asp Leu Cys Tyr Thr Ser Thr Val Thr Pro Lys Leu Met Val Asp  
 85 90 95  
 Leu Leu Ala Glu Arg Lys Thr Ile Ser Tyr Asn Asn Cys Met Ile Gln  
 100 105 110  
 Leu Phe Thr Thr His Phe Phe Gly Gly Ile Glu Ile Phe Ile Leu Thr  
 115 120 125  
 Gly Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr  
 130 135 140  
 Thr Ile Ile Met Ser Arg Gln Lys Cys Asn Thr Ile Ile Ile Val Cys  
 145 150 155 160  
 Cys Thr Gly Gly Phe Ile His Ser Ala Ser Gln Phe Leu Leu Thr Ile

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gacactcaca caaaccagct tctactcttc tactttgtgg gttctattga gatagtcact 720
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<210> 131  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

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<400> 131
Met Gly Arg Arg Asn Asn Thr Asn Val Pro Asp Phe Ile Leu Thr Gly
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Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Ile Leu Phe Leu
      20             25             30

Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu Ile
      35             40             45

Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu Thr
      50             55             60

His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys
      65             70             75             80

Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Met Gly Cys
      85             90             95

Phe Ala Gln Met Phe Phe Phe Val Phe Leu Gly Ala Ala Glu Cys Phe
      100            105            110

Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro
      115            120            125

Leu Arg Tyr Pro Val Ile Met Ser Lys Arg Leu Cys Cys Ala Leu Val
      130            135            140

Thr Gly Pro Tyr Val Ile Ser Phe Ile Asn Ser Phe Val Asn Val Val
      145            150            155            160

Trp Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Val Arg His Phe
      165            170            175

Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Met Asp Thr Tyr
      180            185            190

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Asp Ile Glu Ile Met Ile His Ile Leu Ala Gly Ser Thr Leu Met Val  
 195 200 205  
 Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr Ile  
 210 215 220  
 Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 Ala Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile Phe  
 245 250 255  
 Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln Val  
 260 265 270  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Leu Ile Arg Val Met  
 290 295 300  
 Gln Arg Arg Gln Asp Ser Arg  
 305 310

<210> 132  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 132  
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 ggcaatgtgg ggatgatatt gataatccgc ctggacctcc agcttcacac tcccattgat 180  
 tttttcctta ctacttgctc atttattgac ctgagttact caactgtcat cacacctaaa 240  
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 ttcttttttg tcttcttggtg agctgctgaa tgttttcttc tctcatcaat ggcctatgat 360  
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 tgcgctcttg tctactgggc ctatgtgatt agctttatca actcctttgt caatgtgggt 480  
 tggatgagca gactgcattt ctgcgactca aatgtagttc gtcacttttt ctgcgacacg 540  
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 attagagtca tgcagagaag acaggactcc aggttaa 936

<210> 133  
 <211> 316  
 <212> PRT  
 <213> Homo sapiens

<400> 133  
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 Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30

Val	Leu	Tyr	Gly	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu	35	40	45
Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gln	50	55	60
His	Leu	Ala	Leu	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys	65	70	75
Met	Leu	Ile	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu	85	90	95
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val	100	105	110
Ile	Met	Leu	Ala	Leu	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	115	120	125
Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu	130	135	140
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser	145	150	155
Ser	Tyr	Val	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His	165	170	175
Phe	Tyr	Cys	Asp	Asn	Val	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr	180	185	190
Tyr	Leu	Pro	Glu	Thr	Val	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Val	Val	195	200	205
Gly	Ser	Leu	Ile	Ile	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser	210	215	220
Ile	Leu	Lys	Ile	Cys	Ser	Ser	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr	225	230	235
Cys	Ala	Ser	His	Met	Met	Ala	Val	Thr	Ile	Phe	Tyr	Gly	Thr	Leu	Leu	245	250	255
Phe	Met	Tyr	Val	Gln	Pro	Arg	Ser	Asn	His	Ser	Leu	Asp	Thr	Asp	Asp	260	265	270
Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	275	280	285
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Thr	Ala	Leu	Gln	Arg	290	295	300
Phe	Met	Thr	Asn	Leu	Cys	Tyr	Ser	Phe	Lys	Thr	Met					305	310	315

<210> 134

<211> 951

<212> DNA

<213> Homo sapiens

<400> 134



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gctctacaga gattcatgac aaatctgtgc tattccttta aaacaatgta a 951

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<210> 135  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

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<400> 135
Met Asn His Val Val Lys His Asn His Thr Ala Val Thr Lys Val Thr
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Glu Phe Ile Leu Met Gly Ile Thr Asp Asn Pro Gly Leu Gln Ala Pro
      20              25              30

Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn
      35              40              45

Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro
      50              55              60

Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser
      65              70              75              80

Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn
      85              90              95

Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile
      100             105             110

Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg
      115             120             125

Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu
      130             135             140

Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe
      145             150             155             160

Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly
      165             170             175

Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser
      180             185             190

Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe

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195	200	205
Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr		
210	215	220
Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg		
225	230	235 240
Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met		
	245	250 255
Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Lys Ser Ser His		
	260	265 270
Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile		
	275	280 285
Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys		
	290	295 300
Asp Ala Leu Lys Arg Thr Leu Thr Asn Arg Phe Lys Ile Pro Ile		
305	310	315

<210> 136  
 <211> 960  
 <212> DNA  
 <213> Homo sapiens

<400> 136  
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 ctacacacccc ccatgtactt tttccttaga catttgtcaa tcaactgatct tggttactcc 240  
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 aattgggtatg ccaactcagct agcattcttt gagattttca tcatctctga gctctttatt 360  
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 gtgtcactat ttctcacaat taagttatct aaactgtcct tctgtggctc aaacataatc 540  
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 ttagaattaa taattttgat cttctcaggc tgtaatttgc tcttctccct ctcaattggt 660  
 ctcatatcct acatgtttat tctagtggcc attctcagaa tgaactcaag gaaagggagg 720  
 tacaagaact tctccacctg tagctctcat ctgacagtgg tgatcatgtt ctatgggaca 780  
 ttgttatttta tttacttgca acccaagtcc agtcatactt tggctattga taaaatggcc 840  
 tcagtgtttt ataccctgtt gattcctatg ctgaatccgt tgatctacag cctaaggaac 900  
 aaagaagtaa aagatgctct aaagagaact ttaaccaatc gattcaaaat tcccatttaa 960

<210> 137  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 137  
 Met Glu Gln His Asn Leu Thr Thr Val Asn Glu Phe Ile Leu Thr Gly  
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 Ile Thr Asp Ile Ala Glu Leu Gln Ala Pro Leu Phe Ala Leu Phe Leu  
 20 25 30  
 Met Ile Tyr Val Ile Ser Val Met Gly Asn Leu Gly Met Ile Val Leu

35					40					45					
Thr	Lys	Leu	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg
	50					55					60				
His	Leu	Ala	Phe	Met	Asp	Leu	Gly	Tyr	Ser	Thr	Thr	Val	Gly	Pro	Lys
65					70					75					80
Met	Leu	Val	Asn	Phe	Val	Val	Asp	Lys	Asn	Ile	Ile	Ser	Tyr	Tyr	Phe
			85						90					95	
Cys	Ala	Thr	Gln	Leu	Ala	Phe	Phe	Leu	Val	Phe	Ile	Gly	Ser	Glu	Leu
			100					105					110		
Phe	Ile	Leu	Ser	Ala	Met	Ser	Tyr	Asp	Leu	Tyr	Val	Ala	Ile	Cys	Asn
		115					120					125			
Pro	Leu	Leu	Tyr	Thr	Val	Ile	Met	Ser	Arg	Arg	Val	Cys	Gln	Val	Leu
	130					135					140				
Val	Ala	Ile	Pro	Tyr	Leu	Tyr	Cys	Thr	Phe	Ile	Ser	Leu	Leu	Val	Thr
145					150					155					160
Ile	Lys	Ile	Phe	Thr	Leu	Ser	Phe	Cys	Gly	Tyr	Asn	Val	Ile	Ser	His
				165					170					175	
Phe	Tyr	Cys	Asp	Ser	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Cys	Ser	Asn	Thr
			180					185					190		
His	Glu	Ile	Glu	Leu	Ile	Ile	Leu	Ile	Phe	Ala	Ala	Ile	Asp	Leu	Ile
		195					200					205			
Ser	Ser	Leu	Leu	Ile	Val	Leu	Leu	Ser	Tyr	Leu	Leu	Ile	Leu	Val	Ala
	210					215					220				
Ile	Leu	Arg	Met	Asn	Ser	Ala	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys
225					230					235					240
Gly	Ala	His	Leu	Thr	Val	Val	Ile	Val	Phe	Tyr	Gly	Thr	Leu	Leu	Phe
				245					250					255	
Met	Tyr	Val	Gln	Pro	Lys	Ser	Ser	His	Ser	Phe	Asp	Thr	Asp	Lys	Val
			260					265					270		
Ala	Ser	Ile	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	Ile
		275					280					285			
Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Tyr	Ala	Leu	Arg	Arg	Thr	Trp
	290				295						300				
Asn	Asn	Leu	Cys	Asn	Ile	Phe	Val								
305					310										

<210> 138

<211> 939

<212> DNA

<213> Homo sapiens

<400> 138

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ttttttctca gacatctggc ttcatggat cttgggttatt caacaactgt gggacccaaa 240
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ctagctttct ttcttggtgt cattggtagt gaacttttta ttctctcagc catgtcctac 360
gacctctatg tggccatctg taacctctg ctatacacag taatcatgtc acgaagggta 420
tgtcaggtgc tggtagcaat cccttacctc tattgcacat tcatttctct tctagtcacc 480
ataaagattt ttactttatc cttctgtggc tacaacgtca ttagtcattt ctactgtgac 540
agtctccctt tgttacctt gctttgttca aatacacatg aaattgaatt gataattctg 600
atctttgcag ctattgattt gatttcattt cttctgatag ttcttttatc ttacctgctc 660
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ggagcccacc tgacagtggg catagtgttc tatgggactt tgcttttcat gtacgtgcag 780
cccaagtcca gtcattcctt tgacactgat aaagtggctt ccatatttta caccctggtt 840
atccccatgt tgaatccctt gatctatagt ttacgaaaca aagatgtaaa atatgccta 900
cgaaggacat ggaataactt atgtaatat tttgtttaa 939

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<210> 139

<211> 337

<212> PRT

<213> Homo sapiens

<400> 139

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Met Glu Gly Lys Asn Gln Thr Asn Ile Ser Glu Phe Leu Leu Leu Gly
  1              5              10              15

Phe Ser Ser Trp Gln Gln Gln Gln Val Leu Leu Phe Ala Leu Phe Leu
      20              25              30

Cys Leu Tyr Leu Thr Gly Leu Phe Gly Asn Leu Leu Ile Leu Leu Ala
      35              40              45

Ile Gly Ser Asp His Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ala
      50              55              60

Asn Leu Ser Leu Val Asp Leu Cys Leu Pro Ser Ala Thr Val Pro Lys
      65              70              75              80

Met Leu Leu Asn Ile Gln Thr Gln Thr Gln Thr Ile Ser Tyr Pro Gly
      85              90              95

Cys Leu Ala Gln Met Tyr Phe Cys Met Met Phe Ala Asn Met Asp Asn
      100              105              110

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
      115              120              125

Pro Leu His Tyr Ser Thr Ile Met Ala Leu Arg Leu Cys Ala Ser Leu
      130              135              140

Val Ala Ala Pro Trp Val Ile Ala Ile Leu Asn Pro Leu Leu His Thr
      145              150              155              160

Leu Met Met Ala His Leu His Phe Cys Ser Asp Asn Val Ile His His
      165              170              175

Phe Phe Cys Asp Ile Asn Ser Leu Leu Pro Leu Ser Cys Ser Asp Thr
      180              185              190

Ser Leu Asn Gln Leu Ser Val Leu Ala Thr Val Gly Leu Ile Phe Val
      195              200              205

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Val Pro Ser Val Cys Ile Leu Val Ser Tyr Ile Leu Ile Val Ser Ala  
210 215 220

Val Met Lys Val Pro Ser Ala Gln Gly Lys Leu Lys Ala Phe Ser Thr  
225 230 235 240

Cys Gly Ser His Leu Ala Leu Val Ile Leu Phe Tyr Gly Ala Asn Thr  
245 250 255

Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser  
260 265 270

Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr  
290 295 300

Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu  
305 310 315 320

Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro  
325 330 335

Gly

<210> 140  
<211> 1014  
<212> DNA  
<213> Homo sapiens

<400> 140  
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caacaacagc aggtgctact ctttgcactt ttctgtgtc tctatttaac agggctgttt 120  
ggaaacttac tcatcttgct ggccattggc tcggatcact gccttcacac acccatgtat 180  
ttcttccttg ccaatctgtc cttggtagac ctctgccttc cctcagccac agtccccaag 240  
atgctactga acatccaaac ccaaacccaa accatctcct atcccggctg cctggctcag 300  
atgtatttct gtatgatgtt tgccaatatg gacaattttc ttctcacagt gatggcatat 360  
gaccgttacg tggccatctg tcacccttta cactactcca ccattatggc cctgcgcctc 420  
tgtgcctctc tggtagctgc accttgggtc attgccattt tgaaccctct cttgcacact 480  
cttatgatgg cccatctgca cttctgctct gataatgtta tccaccattt cttctgtgat 540  
atcaactctc tctccctct gtctgttcc gacaccagtc ttaatcagtt gagtgttctg 600  
gctacggtgg ggctgatctt tgtggtacct tcagtgtgta tcttgggtatc ctatatactc 660  
attgtttctg ctgtgatgaa agtcccttct gcccaaggaa aactcaaggc tttctctacc 720  
tgtggatctc acctgcctt ggtcattctt ttctatggag caaacacagg ggtctatatg 780  
agccccttat ccaatcactc tactgaaaaa gactcagccg catcagtcac ttttatgggt 840  
gtagcacctg tgttgaatcc attcatttac agtttaagaa acaatgaact gaaggggact 900  
ttaaaaaaga ccctaagccg gccgggcgcg gtgggtcacg cctgtaatcc cagcactttg 960  
ggaggccgag gcgggtggat catgaggtca ggagatcgag accatcctgg ctaa 1014

<210> 141  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 141  
Met Glu Asn Asn Thr Glu Val Ser Glu Phe Ile Leu Leu Gly Leu Thr

1	5	10	15												
Asn	Ala	Pro	Glu	Leu	Gln	Val	Pro	Leu	Phe	Ile	Met	Phe	Thr	Leu	Ile
	20							25					30		
Tyr	Leu	Ile	Thr	Leu	Thr	Gly	Asn	Leu	Gly	Met	Ile	Ile	Leu	Ile	Leu
	35						40					45			
Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Asn	Leu
	50					55					60				
Ser	Leu	Ala	Gly	Ile	Gly	Tyr	Ser	Ser	Ala	Val	Thr	Pro	Lys	Val	Leu
	65				70					75					80
Thr	Gly	Leu	Leu	Ile	Glu	Asp	Lys	Ala	Ile	Ser	Tyr	Ser	Ala	Cys	Ala
				85					90					95	
Ala	Gln	Met	Phe	Phe	Cys	Ala	Val	Phe	Ala	Thr	Val	Glu	Asn	Tyr	Leu
		100						105					110		
Leu	Ser	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Val	Cys	Asn	Pro	Leu
		115					120					125			
His	Tyr	Thr	Thr	Thr	Met	Thr	Thr	Arg	Val	Cys	Ala	Cys	Leu	Ala	Ile
	130					135					140				
Gly	Cys	Tyr	Val	Ile	Gly	Phe	Leu	Asn	Ala	Ser	Ile	Gln	Ile	Gly	Asp
145					150					155					160
Thr	Phe	Arg	Leu	Ser	Phe	Cys	Met	Ser	Asn	Val	Ile	His	His	Phe	Phe
			165						170					175	
Cys	Asp	Lys	Pro	Ala	Val	Ile	Thr	Leu	Thr	Cys	Ser	Glu	Lys	His	Ile
		180						185					190		
Ser	Glu	Leu	Ile	Leu	Val	Leu	Ile	Ser	Ser	Phe	Asn	Val	Phe	Phe	Ala
		195					200					205			
Leu	Leu	Val	Thr	Leu	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Thr	Ile	Leu
	210					215					220				
Lys	Arg	His	Thr	Gly	Lys	Gly	Tyr	Gln	Lys	Pro	Leu	Ser	Thr	Cys	Gly
225					230					235					240
Ser	His	Leu	Ile	Ala	Ile	Phe	Leu	Phe	Tyr	Ile	Thr	Val	Ile	Ile	Met
				245					250					255	
Tyr	Ile	Arg	Pro	Ser	Ser	Ser	His	Ser	Met	Asp	Thr	Asp	Lys	Ile	Ala
			260					265					270		
Ser	Val	Phe	Tyr	Thr	Met	Ile	Ile	Pro	Met	Leu	Ser	Pro	Ile	Val	Tyr
		275					280					285			
Thr	Leu	Arg	Asn	Lys	Asp	Val	Lys	Asn	Ala	Phe	Met	Lys	Val	Val	Glu
	290					295					300				
Lys	Ala	Lys	Tyr	Ser	Leu	Asp	Ser	Val	Phe						
305					310										

<210> 142

<211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 142  
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 ctacagggtc ccctctttat catgtttacc ctcatctacc tcatcactct gactgggaac 120  
 ctggggatga tcatattaat cctgctggac tctcatctcc acactcccat gtactttttt 180  
 ctcagtaacc tgtctcttgc aggcattggg tactcctcag ctgtcactcc aaagggttta 240  
 actgggttgc ttatagaaga caaagccatc tcctacagtg cctgtgctgc tcagatgttc 300  
 ttttgtgcag tctttgccac tgtggaaaat tacctcttgt cctcaatggc ctatgaccgc 360  
 tacgcagcag tgtgtaaccc cctacattat accaccacca tgacaacacg tgtgtgtgct 420  
 tgtctggcta taggctgtta tgtcattggg tttctgaatg cttctatcca aattggagat 480  
 acatttcgcc tctctttctg catgtccaat gtgattcatc actttttctg tgacaaacca 540  
 gcagtcatta ctctgacctg ctctgagaaa cacattagtg agttgattct tgttcttata 600  
 tcaagtttta atgtcttttt tgcacttctt gttaccttga tttcctatct gttcatattg 660  
 atcaccattc ttaagaggca cacaggtaag ggataccaga agcctttatc tacctgtggg 720  
 tctcacctca ttgccatttt cttattttat ataactgtca tcatcatgta catacgacca 780  
 agttccagtc attccatgga cacagacaaa attgcatctg tgttctacac tatgatcatc 840  
 cccatgctca gtccatatag ctataccctg aggaacaaaag acgtgaagaa tgcattcatg 900  
 aaggttggtg agaaggcaaa atattctcta gattcagtct tttaa 945

<210> 143  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 143  
 Met Gly Asp Val Asn Gln Ser Val Ala Ser Asp Phe Ile Leu Val Gly  
 1 5 10 15  
 Leu Phe Ser His Ser Gly Ser Arg Gln Leu Leu Phe Ser Leu Val Ala  
 20 25 30  
 Val Met Phe Val Ile Gly Leu Leu Gly Asn Thr Val Leu Leu Phe Leu  
 35 40 45  
 Ile Arg Val Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60  
 Gln Leu Ser Leu Phe Asp Ile Gly Cys Pro Met Val Thr Ile Pro Lys  
 65 70 75 80  
 Met Ala Ser Asp Phe Leu Arg Gly Glu Gly Ala Thr Ser Tyr Gly Gly  
 85 90 95  
 Gly Ala Ala Gln Ile Phe Phe Leu Thr Leu Met Gly Val Ala Glu Gly  
 100 105 110  
 Val Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Gln  
 115 120 125  
 Pro Leu Gln Tyr Pro Val Leu Met Arg Arg Gln Val Cys Leu Leu Met  
 130 135 140  
 Met Gly Ser Ser Trp Val Val Gly Val Leu Asn Ala Ser Ile Gln Thr  
 145 150 155 160  
 Ser Ile Thr Leu His Phe Pro Tyr Cys Ala Ser Arg Ile Val Asp His  
 165 170 175

Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Ala Asp Thr  
 180 185 190  
 Cys Ala Tyr Glu Met Ala Leu Ser Thr Ser Gly Val Leu Ile Leu Met  
 195 200 205  
 Leu Pro Leu Ser Leu Ile Ala Thr Ser Tyr Gly His Val Leu Gln Ala  
 210 215 220  
 Val Leu Ser Met Arg Ser Glu Glu Ala Arg His Lys Ala Val Thr Thr  
 225 230 235 240  
 Cys Ser Ser His Ile Thr Val Val Gly Leu Phe Tyr Gly Ala Ala Val  
 245 250 255  
 Phe Met Tyr Met Val Pro Cys Ala Tyr His Ser Pro Gln Gln Asp Asn  
 260 265 270  
 Val Val Ser Leu Phe Tyr Ser Leu Val Thr Pro Thr Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Pro Glu Val Trp Met Ala Leu Val Lys Val  
 290 295 300  
 Leu Ser Arg Ala Gly Leu Arg Gln Met Cys  
 305 310

<210> 144  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 144  
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 ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac 180  
 ttctgtctca gccagctctc cctgtttgac attggtgtgc ccatggtcac catccccaag 240  
 atggcatcag actttctgcg gggagaagggt gccacctcct atggaggtgg tgcagctcaa 300  
 atattcttcc tcacactgat ggggtgtggct gagggcgctc tgttggtcct catgtcttat 360  
 gaccgttatg ttgctgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta 420  
 tgtctgtctga tgatgggctc ctctgtgggt gtaggtgtgc tcaacgcctc catccagacc 480  
 tccatcacc tgcattttcc ctactgtgcc tcccgattg tggatcactt cttctgtgag 540  
 gtgccagccc tactgaagct ctctgtgca gatacctgtg cctacgagat ggcgctgtcc 600  
 acctcagggg tgctgatcct aatgctccct ctttccctca tcgccacctc ctacggccac 660  
 gtgttgacagg ctgttctaag catgcgctca gaggaggcca gacacaaggc tgtcaccacc 720  
 tgctcctcgc acatcacggt agtggggctc ttttatgggt cgcgccgtgt catgtacatg 780  
 gtgccttgcg cctaccacag tccacagcag gataacgtgg tttccctctt ctatagcctt 840  
 gtcaccctta cactcaacc ctttatctac agtctgagga atccggaggt gtggatggct 900  
 ttggtcaaag tgcttagcag agctggactc aggcaaatgt gctga 945

<210> 145  
 <211> 331  
 <212> PRT  
 <213> Homo sapiens

<400> 145  
 Met Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu  
 1 5 10 15



Ala	Gly	Leu	Pro	Asn	Leu	Asn	Ser	Ala	Arg	Val	Glu	Leu	Phe	Ser	Val	20	25	30
Phe	Leu	Leu	Val	Tyr	Leu	Leu	Asn	Leu	Thr	Gly	Asn	Val	Leu	Ile	Val	35	40	45
Gly	Val	Val	Arg	Ala	Asp	Thr	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	50	55	60
Leu	Gly	Asn	Leu	Ser	Cys	Leu	Glu	Ile	Leu	Leu	Thr	Ser	Val	Ile	Ile	65	70	75
Pro	Lys	Met	Leu	Ser	Asn	Phe	Leu	Ser	Arg	Gln	His	Thr	Ile	Ser	Phe	85	90	95
Ala	Ala	Cys	Ile	Thr	Gln	Phe	Tyr	Phe	Tyr	Phe	Phe	Leu	Gly	Ala	Ser	100	105	110
Glu	Phe	Leu	Leu	Leu	Ala	Val	Met	Ser	Ala	Asp	Arg	Tyr	Leu	Ala	Ile	115	120	125
Cys	His	Pro	Leu	Arg	Tyr	Pro	Leu	Leu	Met	Ser	Gly	Ala	Val	Cys	Phe	130	135	140
Arg	Val	Ala	Leu	Ala	Cys	Trp	Val	Gly	Gly	Leu	Val	Pro	Val	Leu	Gly	145	150	155
Pro	Thr	Val	Ala	Val	Ala	Leu	Leu	Pro	Phe	Cys	Lys	Gln	Gly	Ala	Val	165	170	175
Val	Gln	His	Phe	Phe	Cys	Asp	Ser	Gly	Pro	Leu	Leu	Arg	Leu	Ala	Cys	180	185	190
Thr	Asn	Thr	Lys	Lys	Leu	Glu	Glu	Thr	Asp	Phe	Val	Leu	Ala	Ser	Leu	195	200	205
Val	Ile	Val	Ser	Ser	Leu	Leu	Ile	Thr	Ala	Val	Ser	Tyr	Gly	Leu	Ile	210	215	220
Val	Leu	Ala	Val	Leu	Ser	Ile	Pro	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	225	230	235
Phe	Ser	Thr	Cys	Thr	Ser	His	Leu	Ile	Val	Val	Thr	Leu	Phe	Tyr	Gly	245	250	255
Ser	Ala	Ile	Phe	Leu	Tyr	Val	Arg	Pro	Ser	Gln	Ser	Gly	Ser	Val	Asp	260	265	270
Thr	Asn	Trp	Ala	Val	Thr	Val	Ile	Thr	Thr	Phe	Val	Thr	Pro	Leu	Leu	275	280	285
Asn	Pro	Phe	Ile	Tyr	Ala	Leu	Arg	Asn	Glu	Gln	Val	Lys	Glu	Ala	Leu	290	295	300
Lys	Asp	Met	Phe	Arg	Lys	Val	Val	Ala	Gly	Val	Leu	Gly	Asn	Leu	Leu	305	310	315
Leu	Asp	Lys	Cys	Leu	Ser	Glu	Lys	Ala	Val	Lys						325	330	

<210> 146  
 <211> 996  
 <212> DNA  
 <213> Homo sapiens

<400> 146  
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 ctgacaggca atgtgttgat tgtgggggtg gtaagggctg atactcgact acagaccct 180  
 atgtacttct ttctgggtaa cctgtcctgc cttagagatac tgctcacttc tgatcatcatt 240  
 ccaaagatgc tgagcaattt cctctcaagg caacacacta tttcctttgc tgcattgtatc 300  
 acccaattct atttctactt ctttctcggg gcctccgagt tcttactgtt ggctgtcatg 360  
 tctgcggtac gctacctggc catctgtcat cctctgcgt accccttgct catgagtggg 420  
 gctgtgtgct ttctgtgtggc cttggcctgc tgggtggggg gactcgtccc tgtgcttggt 480  
 cccacagtgg ctgtggcctt gcttcctttc tgtaagcagg gtgctgtggt acagcacttc 540  
 ttctgcgaca gtggcccact gctccgctg gcttgaccca acaccaagaa gctggaggag 600  
 actgactttg tcctggcctc cctcgtcatt gtatcttct tgcgtatcac tgcgtgtgcc 660  
 tacggcctca ttgtgctggc agtcctgagc atccccctctg cttcaggccg tcagaaggcc 720  
 ttctctacct gtacctccca cttgatagtg gtgaccctct tctatggaag tgccattttt 780  
 ctctatgtgc ggccatcgca gagtggttct gtggacacta actgggcagt gacagtaata 840  
 acgacatttg tgacaccact gttgaatcca ttcattctatg ccttacgtaa tgagcaagtc 900  
 aaggaagctt tgaaggacat gtttaggaag gtagtggcag gcgttttagg gaatctttta 960  
 cttgataaat gtctcagtga gaaagcagta aagtaa 996

<210> 147  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

<400> 147  
 Met Thr Pro Gly Glu Leu Ala Leu Ala Ser Gly Asn His Thr Pro Val  
 1 5 10 15  
 Thr Lys Phe Ile Leu Gln Gly Phe Ser Asn Tyr Pro Asp Leu Gln Glu  
 20 25 30  
 Leu Leu Phe Gly Ala Ile Leu Leu Ile Tyr Ala Ile Thr Val Val Gly  
 35 40 45  
 Asn Leu Gly Met Met Ala Leu Ile Phe Thr Asp Ser His Leu Gln Ser  
 50 55 60  
 Pro Met Tyr Phe Phe Leu Asn Val Leu Ser Phe Leu Asp Ile Cys Tyr  
 65 70 75 80  
 Ser Ser Val Val Thr Pro Lys Leu Leu Val Asn Phe Leu Val Ser Asp  
 85 90 95  
 Lys Ser Ile Ser Phe Glu Gly Cys Val Val Gln Leu Ala Phe Phe Val  
 100 105 110  
 Val His Val Thr Ala Glu Ser Phe Leu Leu Ala Ser Met Ala Tyr Asp  
 115 120 125  
 Arg Phe Leu Ala Ile Cys Gln Pro Leu His Tyr Gly Ser Ile Met Thr  
 130 135 140  
 Arg Gly Thr Cys Leu Gln Leu Val Ala Val Ser Tyr Ala Phe Gly Gly  
 145 150 155 160

Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys  
165 170 175

Gly Pro Asn Gln Leu Thr His Tyr Tyr Cys Asp Ile Pro Pro Leu Leu  
180 185 190

His Leu Ala Cys Ala Asn Thr Ala Thr Ala Arg Val Val Leu Tyr Val  
195 200 205

Phe Ser Ala Leu Val Thr Leu Leu Pro Ala Ala Val Ile Leu Thr Ser  
210 215 220

Tyr Cys Leu Val Leu Val Ala Ile Gly Arg Met Arg Ser Val Ala Gly  
225 230 235 240

Arg Glu Lys Asp Leu Ser Thr Cys Ala Ser His Phe Leu Ala Ile Ala  
245 250 255

Ile Phe Tyr Gly Thr Val Val Phe Thr Tyr Val Gln Pro His Gly Ser  
260 265 270

Thr Asn Asn Thr Asn Gly Gln Val Val Ser Val Phe Tyr Thr Ile Ile  
275 280 285

Ile Pro Met Leu Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Glu Val  
290 295 300

Lys Gly Ala Leu Gln Arg Lys Leu Gln Val Asn Ile Phe Pro Gly  
305 310 315

<210> 148  
<211> 960  
<212> DNA  
<213> Homo sapiens

<400> 148  
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ttgcagggat tctccaatta tccagacctc caggagcttc tcttcggagc catcctgctc 120  
atctatgcca taacagtggg gggcaacttg ggaatgatgg cactcatctt cacagactcc 180  
catctccaaa gcccaatgta tttcttctc aatgtcctct cgtttcttga tatttggtac 240  
tcttctgtgg tcacacctaa gctcttggtc aacttctctg tctctgacaa gtccatctct 300  
tttgagggct gtgtgggtcca gctcgcttc tttgtagtgc atgtgacagc tgagagcttc 360  
ctgctggcct ccatggccta tgaccgcttc ctagccatct gtcaaccctt ccattatggg 420  
tctatcatga ccagggggac ctgtctccag ctggtagctg tgtcctatgc atttggtgga 480  
gccaaactccg ctatccagac tggaaatgtc tttgccctgc ctttctgtgg gcccaaccag 540  
ctaacacact actactgtga cataccacct cttctccacc tggcttgtgc caacacagcc 600  
acagcaagag tggctctcta tgtcttttct gctctggtca cccttctgcc tgcctgcagc 660  
attctcacct cctactgctt ggtcttggtg gccattggga ggatgcgctc agtagcaggg 720  
agggagaagg acctctccac ttgtgcctcc cactttctgg ccattgccat tttctatggc 780  
actgtggttt tcacctatgt tcagcccat ggatctacta acaataccaa tggccaagta 840  
gtgtccgtct tctacaccat cataattccc atgtcgaatc ccttcatcta tagcctccgc 900  
aacaaggagg tgaagggcgc tctgcagagg aagcttcagg tcaacatctt tcccggctga 960

<210> 149  
<211> 309  
<212> PRT  
<213> Homo sapiens

[illegible]

<210> 150  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
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 cctgagggtcc agatgctgat ttttgtgggc ttctgatga tgtatctgac cagcctcggc 120  
 ggaaatgcta caattgcagt cattgttcag atcaatcatt ccctccacac ccccatgtac 180  
 tttttcctgg ctaatctggc agttctagaa atctttctata catcttccat caccctcattg 240  
 gccttggcaa acctcctttc aatgggcaaa actcctgttt ccatcacggg atgtggcacc 300  
 cagatgtttt tctttgtctt cttgggtggg gctgattgtg tcctgctggc agtcatggc 360  
 tatgaccggc ttatagcgat ctgtcaccct ctgcgataca ggctcatcat gagctgggtcc 420  
 ttgtgtgtgg agctgctggc aggtccttgg gtgctggggc tcctgttgct actgccactc 480  
 accatttttaa tcttccatct cccattctgc cacaatgatg agatctacca cttctactgt 540  
 gacatgcctg cagtcatgcg cctggcttgc gcagacacac gcgttcacaa gactgctctg 600  
 tatacatca gcttcatcgt ccttagcatc cccctctcat tgatctccat ctcctatgtc 660  
 ttcacgtgg tagccatttt acggatccgg tcagcagaag ggcgccagca agcctactct 720  
 acctgctctt ctcacatctt agtggctctc ctgcagtatg gctgcaccag ctttatatac 780  
 ttgtcccca gttccagcta ctctcctgag atgggcccgg tggtatctgt ggcctacaca 840  
 tttatcactc ccatttttaa ccccttgatc tatagtttga ggaacaagga actgaaagat 900  
 gccctaagga aagcattgag aaaattctag 930

<210> 151  
 <211> 409  
 <212> PRT  
 <213> Homo sapiens

<400> 151  
 Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly  
 1 5 10 15  
 Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
 20 25 30  
 Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
 35 40 45  
 Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60  
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
 65 70 75 80  
 Met Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg  
 85 90 95  
 Pro Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile  
 100 105 110  
 Leu Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser  
 115 120 125  
 Cys Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile  
 130 135 140  
 Thr Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe  
 145 150 155 160

Phe Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile  
 165 170 175  
 Met Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser  
 180 185 190  
 Tyr Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser  
 195 200 205  
 Ser Glu Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala  
 210 215 220  
 Ile Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys  
 225 230 235 240  
 Ser Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala  
 245 250 255  
 Ile His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val  
 260 265 270  
 Ile Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys  
 275 280 285  
 Ser Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe  
 290 295 300  
 Tyr Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile  
 305 310 315 320  
 Val Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala  
 325 330 335  
 Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr  
 340 345 350  
 Ala Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly  
 355 360 365  
 Lys Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu  
 370 375 380  
 Asn Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu  
 385 390 395 400  
 Arg Lys Leu Phe Pro Phe Phe Arg Asn  
 405

<210> 152  
 <211> 987  
 <212> DNA  
 <213> Homo sapiens

<400> 152  
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 taccgggtgt tcttattcag ctgtttctct ttcctctact ctggggccct cacaggtaat 180  
 gtcctcatca ccttggecat cacgttcaac cctgggctcc acgctctat gtactttttc 240  
 ttactcaact tggctactat ggacattatc tgcacctctt ccatcatgcc caaggcgctg 300  
 gccagtctgg tgtcggaaga gagctccatc tcctacgggg gctgcatggc ccagctctat 360

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ttcctcacgt gggctgcatc ctcagagctg ctgctcctca cggtcatggc ctatgaccgg 420
tacgcagcca tctgccaccc gctgcattac agcagcatga tgagcaaggt gttctgcagc 480
gggctggcca cagccgtgtg gctgctctgc gccgtcaaca cggccatcca cacggggctg 540
atgctgcgct tggatttctg tggccccaat gtcattatcc atttcttctg cgaggccct 600
ccccgtctgc ttctctcctg cagctccacc tacgtcaacg gtgtcatgat tgtcctggcg 660
gatgctttct acggcatagt gaacttcctg atgaccatcg cgtcctatgg cttcatcgctc 720
tccagcatcc tgaagggtgaa gactgcctgg gggaggcaga aagccttctc cacctgctct 780
tccacactca ccgtgggtgtg catgtattac accgctgtct tctacgccta cataagccc 840
gtctctgggt acagcgcagg gaagagcaag ttggctggcc tgctgtacac tgtgtgagt 900
cctaccctca accccctcat ctatactttg agaaacaagg aggtcaaagc agccctcagg 960
aagcttttcc ctttcttcag aaattaa 987

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<210> 153  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

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<400> 153
Met Gln Leu Asn Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
  1                      5                      10                      15

Gln Asp Pro Phe Trp Lys Lys Ile Val Phe Val Ile Phe Leu Arg Leu
      20                      25                      30

Tyr Leu Gly Thr Leu Leu Gly Asn Leu Leu Ile Ile Ile Ser Val Lys
      35                      40                      45

Ala Ser Gln Ala Leu Lys Asn Pro Met Phe Phe Phe Leu Phe Tyr Leu
      50                      55                      60

Ser Leu Ser Asp Thr Cys Leu Ser Thr Ser Ile Ala Pro Arg Met Ile
      65                      70                      75                      80

Val Asp Ala Leu Leu Lys Lys Thr Thr Ile Ser Phe Ser Glu Cys Met
      85                      90                      95

Ile Gln Val Phe Ser Ser His Val Phe Gly Cys Leu Glu Ile Phe Ile
      100                      105                      110

Leu Ile Leu Thr Ala Val Asp Arg Tyr Val Asp Ile Cys Lys Pro Leu
      115                      120                      125

His Tyr Met Thr Ile Ile Ser Gln Trp Val Cys Gly Val Leu Met Ala
      130                      135                      140

Val Ala Trp Val Gly Ser Cys Val His Ser Leu Val Gln Ile Phe Leu
      145                      150                      155                      160

Ala Leu Ser Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Cys Phe
      165                      170                      175

Cys Asp Leu Gln Pro Leu Leu Lys Gln Ala Cys Ser Glu Thr Tyr Val
      180                      185                      190

Val Asn Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ala Val Ser
      195                      200                      205

Tyr Val Met Leu Ile Phe Ser Tyr Val Ile Phe Leu His Ser Leu Arg
      210                      215                      220

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65	70	75	80
Pro Thr Met Leu Ala Val Leu Trp Leu Asp Ala Pro Glu Ile Gln Ala			
	85	90	95
Ser Ala Cys Tyr Ala Gln Leu Phe Phe Ile His Thr Phe Thr Phe Leu			
	100	105	110
Glu Ser Ser Val Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile			
	115	120	125
Cys His Pro Leu His Tyr Pro Thr Ile Leu Thr Asn Ser Val Ile Gly			
	130	135	140
Lys Ile Gly Leu Ala Cys Leu Leu Arg Ser Leu Gly Val Val Leu Pro			
	145	150	155
Thr Pro Leu Leu Leu Arg His Tyr His Tyr Cys His Gly Asn Ala Leu			
	165	170	175
Ser His Ala Phe Cys Leu His Gln Asp Val Leu Arg Leu Ser Cys Thr			
	180	185	190
Asp Ala Arg Thr Asn Ser Ile Tyr Gly Leu Cys Val Val Ile Ala Thr			
	195	200	205
Leu Gly Val Asp Ser Ile Phe Ile Leu Leu Ser Tyr Val Leu Ile Leu			
	210	215	220
Asn Thr Val Leu Asp Ile Ala Ser Arg Glu Glu Gln Leu Lys Ala Leu			
	225	230	235
Asn Thr Cys Val Ser His Ile Cys Val Val Leu Ile Phe Phe Val Pro			
	245	250	255
Val Ile Gly Val Ser Met Val His Arg Phe Gly Lys His Leu Ser Pro			
	260	265	270
Ile Val His Ile Leu Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro Val			
	275	280	285
Leu Asn Pro Ile Val Tyr Ser Val Arg Thr Lys Gln Ile Arg Leu Gly			
	290	295	300
Ile Leu His Lys Phe Val Leu Arg Arg Arg Phe			
	305	310	315

<210> 108

<211> 948

<212> DNA

<213> Homo sapiens

<400> 108

atgggagact	ggaataacag	tgatgctgtg	gagcccatat	ttatcctgag	gggttttcct	60
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tttatgggta	atgttaccat	cctgtctgtc	atttggatag	aatcctctct	ccatcagccc	180
atgtattact	ttatttccat	cttagcagtg	aatgacctgg	ggatgtccct	gtctacactt	240
cccaccatgc	ttgctgtgtt	atggttggat	gctccagaga	tccaggcaag	tgcttgctat	300
gctcagctgt	tcttcaccca	cacattcaca	ttcctggagt	cctcagtggt	gctggccatg	360
gcctttgacc	gttttggtgc	tatctgccat	ccactgcact	accccacat	cctcaccaac	420



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agtgtaattg gcaaaattgg tttggcctgt ttgctacgaa gcttgggagt tgtacttccc 480
acacctttgc tactgagaca ctatcactac tgccatggca atgccctctc tcacgccttc 540
tgtttgcacc aggatgttct aagattatcc tgtacagatg ccaggaccaa cagtatttat 600
gggctttgtg tagtcattgc cacactaggt gtggattcaa tcttcatact tctttcttat 660
gttctgattc ttaatactgt gctggatatt gcattctcgtg aagagcagct aaaggcactc 720
aacacatgtg tatcccatat ctgtgtggtg cttatcttct ttgtgccagt tattggggtg 780
tcaatgggtc atcgctttgg gaagcatctg tctcccatag tccacatcct catggcagac 840
atctaccttc ttcttcccc agtccttaac cctattgtct atagtgtcag aacaaagcag 900
attcgtctag gaattctcca caagtttgtc ctaaggagga ggttttaa 948

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<210> 109  
 <211> 325  
 <212> PRT  
 <213> Homo sapiens

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<400> 109
Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu
  1              5              10              15

Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro
      20              25              30

Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu
      35              40              45

Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe
      50              55              60

Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile
      65              70              75              80

Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe
      85              90              95

Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met
      100              105              110

Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile
      115              120              125

Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser
      130              135              140

Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro
      145              150              155              160

Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile
      165              170              175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala
      180              185              190

Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu
      195              200              205

Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys
      210              215              220

Ala Val Phe Arg Leu Pro Thr His Glu Pro Arg Leu Lys Ser Leu Ser
      225              230              235              240

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Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala  
 245 250 255  
 Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr  
 260 265 270  
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu  
 275 280 285  
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val  
 290 295 300  
 Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu  
 305 310 315 320  
 Ile His Thr Arg Phe  
 325

<210> 110  
 <211> 978  
 <212> DNA  
 <213> Homo sapiens

<400> 110  
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 ctcataggga acttcactat tctacttggt atcaagactg acagcagcct acaccagccc 180  
 atgttctact tcttgcccat gttggccacc actgatgtgg gtctctcaac agctaccatc 240  
 cctaagatgc ttggaatctt ctggatcaac ctcagaggga tcatctttga agcctgcctc 300  
 acccagatgt tttttatcca caacttcaca cttatggagt cagcagtcct tgtggcaatg 360  
 gcttatgaca gctatgtggc catctgcaat ccactccaat atagcgccat cctcaccaac 420  
 aagggtgttt ctgtgattgg tcttggtgtg tttgtgaggg ctttaatttt cgtcattccc 480  
 tctatacttc ttatatggcg gttgcccttc tgtgggaatc atgtaattcc ccacacctac 540  
 tgtgagcaca tgggtcctgc tcatctatct tgtgccagca tcaaaatcaa tattatttat 600  
 ggtttatgtg ccatttgtaa tctgggtgtt gacatcacag tcattgccct ctcttatgtg 660  
 catattcttt gtgctgtttt ccgtcttctt actcatgagc cccgactcaa gtcctcagc 720  
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 tatgttggtg tgccaccaat gctcaatcct gtcatatatg gagtcagaac caagcagatc 900  
 tataaatgtg taaagaaaat attattgcag gaacaaggaa tggaaaagga agagtaccta 960  
 atacatacga ggttctga 978

<210> 111  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 111  
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
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 Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
 20 25 30  
 Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu  
 35 40 45  
 Phe Ile Ile Lys Thr Glu Pro Ser Leu His Gly Pro Met Tyr Tyr Phe

50	55	60
Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu		
65	70	75 80
Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Thr Ser Ser		
	85	90 95
Ser Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu		
	100	105 110
Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile		
	115	120 125
His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala		
	130	135 140
Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro		
145	150	155 160
Phe Pro Phe Thr Leu Arg Ser Leu Arg Tyr Cys Lys Lys Asn Gln Leu		
	165	170 175
Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser		
	180	185 190
Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu		
	195	200 205
Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys		
	210	215 220
Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Glu Leu Lys Ala Leu Asn		
225	230	235 240
Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile		
	245	250 255
Ile Asn Leu Ala Val Val His Arg Phe Ala Gly His Val Ser Pro Leu		
	260	265 270
Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met		
	275	280 285
Lys Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val		
	290	295 300
Val Ala Lys Leu Cys Gln Trp Lys Ile		
305	310	

<210> 112

<211> 942

<212> DNA

<213> Homo sapiens

<400> 112

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attctaggaa atggcaccat tctttttatc atcaagacag agccctcctt gcatgggccc 180
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cccactgtgt taagcatctt cctgttcaat gcccctgaaa cttcttctag tgcctgcttt 300
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tcatttgata gattcctagc catccacaat cctctgagat acacctcaat cctgacaact 420
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gttggtccacc gctttgccgg gcatgtctct cccctcatta atgttctcat ggcaaagtgt 840
ctcctacttg tacctccgct gatgaaacca attgtttatt gtgtaaaaaac taaacagatt 900
agagtgtgag ttgtagcaaa attgtgtcaa tggaagattt aa 942

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<210> 113  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 113

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Met Phe Tyr His Asn Lys Ser Ile Phe His Pro Val Thr Phe Phe Leu
  1              5              10              15

Ile Gly Ile Pro Gly Leu Glu Asp Phe His Met Trp Ile Ser Gly Pro
      20              25              30

Phe Cys Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Thr Ile Leu
      35              40              45

Leu Val Ile Lys Val Glu Gln Thr Leu Arg Glu Pro Met Phe Tyr Phe
      50              55              60

Leu Ala Ile Leu Ser Thr Ile Asp Leu Ala Leu Ser Ala Thr Ser Val
      65              70              75              80

Pro Arg Met Leu Gly Ile Phe Trp Phe Asp Ala His Glu Ile Asn Tyr
      85              90              95

Gly Ala Cys Val Ala Gln Met Phe Leu Ile His Ala Phe Thr Gly Met
      100              105              110

Glu Ala Glu Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
      115              120              125

Cys Ala Pro Leu His Tyr Ala Thr Ile Leu Thr Ser Leu Val Leu Val .
      130              135              140

Gly Ile Ser Met Cys Ile Val Ile Arg Pro Val Leu Leu Thr Leu Pro
      145              150              155              160

Met Val Tyr Leu Ile Tyr Arg Leu Pro Phe Cys Gln Ala His Ile Ile
      165              170              175

Ala His Ser Tyr Cys Glu His Met Gly Ile Ala Lys Leu Ser Cys Gly
      180              185              190

Asn Ile Arg Ile Asn Gly Ile Tyr Gly Leu Phe Val Val Ser Phe Phe
      195              200              205

Val Leu Asn Leu Val Leu Ile Gly Ile Ser Tyr Val Tyr Ile Leu Arg
      210              215              220

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Ala Val Phe Arg Leu Pro Ser His Asp Ala Gln Leu Lys Ala Leu Ser  
 225 230 235 240

Thr Cys Gly Ala His Val Gly Val Ile Cys Val Phe Tyr Ile Pro Ser  
 245 250 255

Val Phe Ser Phe Leu Thr His Arg Phe Gly His Gln Ile Pro Gly Tyr  
 260 265 270

Ile His Ile Leu Val Ala Asn Leu Tyr Leu Ile Ile Pro Pro Ser Leu  
 275 280 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val  
 290 295 300

Leu Tyr Val Phe Thr Lys Lys  
 305 310

<210> 114  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
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 ttgctgggca atgccacat tctgctagtc atcaaggtag aacagactct ccgggagccc 180  
 atgttctact tcctggccat tctttccact attgatttgg ccctttctgc aacctctgtg 240  
 cctcgcatgc tgggtatctt ctggtttgat gctcagaga ttaactatgg agcttgtgtg 300  
 gccagatgt ttctgatcca tgccttcact ggcattggagg ctgaggtctt actggctatg 360  
 gcttttgacc gttatgtggc catctgtgct ccactacatt acgcaaccat cttgacatcc 420  
 ctagtgttgg tgggcattag catgtgcatt gtaattcgtc ccgttttact tacacttccc 480  
 atggtctatc ttatctaccg cctacccttt tgtcaggctc acataatagc ccattcctac 540  
 tgtgagcaca tgggcattgc aaaattgtcc tgtggaaaca ttcgtatcaa tgggtatctat 600  
 gggctttttg tagtttcttt ctttgttctg aacctgggtg tcattggcat ctcgtatgtt 660  
 tacattctcc gtgctgtctt ccgcctccca tcacatgatg ctacagctaaa agccctaagc 720  
 acgtgtggcg ctcatgttgg agtcatctgt gttttctata tcccttcagt cttctctttc 780  
 cttactcatc gatttggaca ccaaatacca gggtacattc acattcttgt tgccaatctc 840  
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 cgagagcagag tgctctatgt ttttactaaa aaataa 936

<210> 115  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 115  
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
 1 5 10 15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
 20 25 30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu  
 35 40 45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe  
 50 55 60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu  
 65 70 75 80  
 Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser  
 85 90 95  
 Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu  
 100 105 110  
 Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile  
 115 120 125  
 His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala  
 130 135 140  
 Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro  
 145 150 155 160  
 Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu  
 165 170 175  
 Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser  
 180 185 190  
 Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu  
 195 200 205  
 Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys  
 210 215 220  
 Thr Val Leu Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn  
 225 230 235 240  
 Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile  
 245 250 255  
 Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu  
 260 265 270  
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Thr  
 275 280 285  
 Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
 290 295 300  
 Val Ala Lys Leu Cys Gln Arg Lys Ile  
 305 310

<210> 116  
 <211> 942  
 <212> DNA  
 <213> Homo sapiens

<400> 116  
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 attctaggaa atggcaccat tctttttatc atcaagacag agccctcctt gcatgagccc 180  
 atgtactatt ttctttccat gttggtatg tcagacttgg gtttgtcttt atcatctctg 240  
 cccactgtgt taagcatctt cctgttcaat gctcctgaaa tttcatccaa tgctgtctt 300

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gccaggaat tcttcattca tggattctca gtactggagt cctcagtcct cctgatcatg 360
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gtcagagttg cccaaatagg gatagtattc tcctttaaga gcatgctcct ggttcttccc 480
ttccctttca ctttaagaaa cttgagatat tgcaagaaaa accaattatc ccattcctac 540
tgtctccacc aggatgtcat gaagttggcc tgttctgaca acagaattga tgttatctat 600
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ctgatcctca agactgtact gggaattgca tccaaaaagg agcagcttaa ggctctcaat 720
acttgtgttt cacacatctg tgcagtgatc atcttctacc tgcccatcat caacctggcc 780
gttgtccacc gctttgcccg gcatgtctct cccctcatta atgttctcat ggcaaagtgt 840
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agagtgagag ttgtagcaaa attgtgtcaa cggaagattt aa 942

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<210> 117  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

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<400> 117
Met Thr Ile Leu Leu Asn Ser Ser Leu Gln Arg Ala Thr Phe Phe Leu
  1              5              10              15

Thr Gly Phe Gln Gly Leu Glu Gly Leu His Gly Trp Ile Ser Ile Pro
      20              25              30

Phe Cys Phe Ile Tyr Leu Thr Val Ile Leu Gly Asn Leu Thr Ile Leu
      35              40              45

His Val Ile Cys Thr Asp Ala Thr Leu His Gly Pro Met Tyr Tyr Phe
      50              55              60

Leu Gly Met Leu Ala Val Thr Asp Leu Gly Leu Cys Leu Ser Thr Leu
      65              70              75              80

Pro Thr Val Leu Gly Ile Phe Trp Phe Asp Thr Arg Glu Ile Gly Ile
      85              90              95

Pro Ala Cys Phe Thr Gln Leu Phe Phe Ile His Thr Leu Ser Ser Met
      100              105              110

Glu Ser Ser Val Leu Leu Ser Met Ser Ile Asp Arg Ser Val Ala Val
      115              120              125

Cys Asn Pro Leu His Asp Ser Thr Val Leu Thr Pro Ala Cys Ile Val
      130              135              140

Lys Met Gly Leu Ser Ser Val Leu Arg Ser Ala Leu Leu Ile Leu Pro
      145              150              155              160

Leu Pro Phe Leu Leu Lys Arg Phe Gln Tyr Cys His Ser His Val Leu
      165              170              175

Ala His Ala Tyr Cys Leu His Leu Glu Ile Met Lys Leu Ala Cys Ser
      180              185              190

Ser Ile Ile Val Asn His Ile Tyr Gly Leu Phe Val Val Ala Cys Thr
      195              200              205

Val Gly Val Asp Ser Leu Leu Ile Phe Leu Ser Tyr Ala Leu Ile Leu
      210              215              220

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Arg Thr Val Leu Ser Ile Ala Ser His Gln Glu Arg Leu Arg Ala Leu  
 225 230 235 240  
 Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe Tyr Ile Pro  
 245 250 255  
 Met Ile Gly Leu Ser Leu Val His Arg Phe Gly Glu His Leu Pro Arg  
 260 265 270  
 Val Val His Leu Phe Met Ser Tyr Val Tyr Leu Leu Val Pro Pro Leu  
 275 280 285  
 Met Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Gln Ile Arg Gln Arg  
 290 295 300  
 Ile Ile Lys Lys Phe Gln Phe Ile Lys Ser Leu Arg Cys Phe Trp Lys  
 305 310 315 320

Asp

<210> 118  
 <211> 966  
 <212> DNA  
 <213> Homo sapiens

<400> 118  
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 atcttgggga acctcaccat tctccacgtc atttgacttg atgccactct ccatggaccc 180  
 atgtactatt tcttgggcat gctagctgtc acagacttag gcctttgcct ttccacactg 240  
 cccactgtgc tgggcatttt ctgggtttgat accagagaga ttggcatccc tgcctgtttc 300  
 actcagctct tcttcattca cacttgtgtc tcaatggagt catcagttct gttatccatg 360  
 tccattgacc gctccgtggc cgtctgcaac ccaactgcat actccaccgt cctgacacct 420  
 gcatgtattg tcaagatggg gctaagctca gtgcttagaa gtgctctcct catcctcccc 480  
 ttgccattcc tcctgaagcg cttccaatac tgccactccc atgtgctggc tcatgcttat 540  
 tgtcttcacc tggagatcat gaagctggcc tgctctagca tcattgtcaa tcacatctat 600  
 gggctctttg ttgtggcctg caccgtgggt gtggactccc tgctcatctt tctctcatac 660  
 gccctcatcc ttccgaccgt gctcagcatt gcctcccacc aggagcgact ccgagccctc 720  
 aacacctgtg tctctcatat ctgtgctgta ctgctcttct acatcccat gattggcttg 780  
 tctcttgtgc atcgctttgg tgaacatctg ccccgctgtg tacacctctt catgtcctat 840  
 gtgtatctgc tggtagcacc ccttatgaac cccatcatct acagcatcaa gaccaagcaa 900  
 attcgccagc gcattcattaa gaagtttcag tttataaagt cacttaggtg tttttggaag 966  
 gattaa

<210> 119  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Met Ala Gly Arg Met Ser Thr Ser Asn His Thr Gln Phe His Pro Ser  
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 Ser Phe Leu Leu Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp  
 20 25 30  
 Ile Gly Val Pro Phe Phe Phe Val Tyr Leu Val Ala Leu Leu Gly Asn  
 35 40 45



Thr	Ala	Leu	Leu	Phe	Val	Ile	Gln	Thr	Glu	Gln	Ser	Leu	His	Glu	Pro	50	55	60
Met	Tyr	Tyr	Phe	Leu	Ala	Met	Leu	Asp	Ser	Ile	Asp	Leu	Gly	Leu	Ser	65	70	75
Thr	Ala	Thr	Ile	Pro	Lys	Met	Leu	Gly	Ile	Phe	Trp	Phe	Asn	Thr	Lys	85	90	95
Glu	Ile	Ser	Phe	Gly	Gly	Cys	Leu	Ser	His	Met	Phe	Phe	Ile	His	Phe	100	105	110
Phe	Thr	Ala	Met	Glu	Ser	Ile	Val	Leu	Val	Ala	Met	Ala	Phe	Asp	Arg	115	120	125
Tyr	Ile	Ala	Ile	Cys	Lys	Pro	Leu	Arg	Tyr	Thr	Met	Ile	Leu	Thr	Ser	130	135	140
Lys	Ile	Ile	Ser	Leu	Ile	Ala	Gly	Ile	Ala	Val	Leu	Arg	Ser	Leu	Tyr	145	150	155
Met	Val	Val	Pro	Leu	Val	Phe	Leu	Leu	Leu	Arg	Leu	Pro	Phe	Cys	Gly	165	170	175
His	Arg	Ile	Ile	Pro	His	Thr	Tyr	Cys	Glu	His	Met	Gly	Ile	Ala	Arg	180	185	190
Leu	Ala	Cys	Ala	Ser	Ile	Lys	Val	Asn	Ile	Arg	Phe	Gly	Leu	Gly	Asn	195	200	205
Ile	Ser	Leu	Leu	Leu	Leu	Asp	Val	Ile	Leu	Ile	Ile	Leu	Ser	Tyr	Val	210	215	220
Arg	Ile	Leu	Tyr	Ala	Val	Phe	Cys	Leu	Pro	Ser	Trp	Glu	Ala	Arg	Leu	225	230	235
Lys	Ala	Leu	Asn	Thr	Cys	Gly	Ser	His	Ile	Gly	Val	Ile	Leu	Ala	Phe	245	250	255
Phe	Thr	Pro	Ala	Phe	Phe	Ser	Phe	Leu	Thr	His	Arg	Phe	Gly	His	Asn	260	265	270
Ile	Pro	Gln	Tyr	Ile	His	Ile	Ile	Leu	Ala	Asn	Leu	Tyr	Val	Val	Val	275	280	285
Pro	Pro	Ala	Leu	Asn	Pro	Val	Ile	Tyr	Gly	Val	Arg	Thr	Lys	Gln	Ile	290	295	300
Arg	Glu	Arg	Val	Leu	Arg	Ile	Phe	Leu	Lys	Thr	Asn	His				305	310	315

<210> 120

<211> 954

<212> DNA

<213> Homo sapiens

<400> 120

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tatcttggtg cactcctggg aaacactgct ctcttggttg tgatccagac tgagcagagt 180
ctccatgagc ctatgtacta cttcctggcc atgttggatt ccattgacct gggcttgtct 240
acagccacca tccccaaat gttgggcac ttctggttca ataccaaaga aatatctttt 300
ggaggctgcc tttctcacat gttcttcac catttcttca ctgctatgga gagcattgtg 360
ttggtggcca tggcctttga ccgctacatt gccatttgca aacctcttcg gtacaccatg 420
atcctcacca gcaaaatcat cagcctcatt gcaggcattg ctgtcctgag gagcctgtac 480
atggttggtt cactggtggt tctccttctg aggctgccct tctgtgggca tcgtatcatc 540
cctcatactt attgtgagca catgggcatt gcccgctcgg cctgtgccag catcaaagtc 600
aacattaggt ttggccttgg caacatatct ctcttggttac tggatgttat ccttattatt 660
ctctcctatg tcaggatcct gtatgctgtc ttctgcctgc cctcctggga agctcgactc 720
aaagctctca acacctgtgg ttctcatatt ggtgttatct tagccttttt tacaccagca 780
tttttttcat tcttgacaca tcgttttggc cataatatcc cacagtatat acatattata 840
ttagccaacc tgtatgtggt tgtcccacca gccctcaatc ctgtaatcta tggagtcagg 900
acaaagcaga ttcgagagag agtgctgagg atttttctca agaccaatca ctaa 954

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<210> 121
<211> 320
<212> PRT
<213> Homo sapiens

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<400> 121
Met Ser Phe Leu Asn Gly Thr Ser Leu Thr Pro Ala Ser Phe Ile Leu
  1              5              10              15

Asn Gly Ile Pro Gly Leu Glu Asp Val His Leu Trp Ile Ser Phe Pro
      20              25              30

Leu Cys Thr Met Tyr Ser Ile Ala Ile Thr Gly Asn Phe Gly Leu Met
      35              40              45

Tyr Leu Ile Tyr Cys Asp Glu Ala Leu His Arg Pro Met Tyr Val Phe
      50              55              60

Leu Ala Leu Leu Ser Phe Thr Asp Val Leu Met Cys Thr Ser Thr Leu
      65              70              75              80

Pro Asn Thr Leu Phe Ile Leu Trp Phe Asn Leu Lys Glu Ile Asp Phe
      85              90              95

Lys Ala Cys Leu Ala Gln Met Phe Phe Val His Thr Phe Thr Gly Met
      100              105              110

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp His Cys Val Ala Ile
      115              120              125

Cys Phe Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Ser Val Ile Ala
      130              135              140

Lys Ala Gly Phe Leu Thr Phe Leu Arg Gly Val Met Leu Val Ile Pro
      145              150              155              160

Ser Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Lys Gly Asn Val Ile
      165              170              175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Ile Ser Cys Gly
      180              185              190

Asn Val Arg Val Asn Ala Ile Tyr Gly Leu Ile Val Ala Leu Leu Ile
      195              200              205

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Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu  
 210 215 220  
 Gln Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe  
 225 230 235 240  
 Ser Thr Cys Thr Ala His Phe Cys Ala Ile Val Leu Thr Tyr Val Pro  
 245 250 255  
 Ala Phe Phe Thr Phe Phe Thr His His Phe Gly Gly His Thr Ile Pro  
 260 265 270  
 Leu His Ile His Ile Ile Met Ala Asn Leu Tyr Leu Leu Met Pro Pro  
 275 280 285  
 Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Arg Gln Val Arg Glu  
 290 295 300  
 Ser Val Ile Arg Phe Phe Leu Lys Gly Lys Asp Asn Ser His Asn Phe  
 305 310 315 320

<210> 122  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 122  
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 attacaggga acttcggcct tatgtacctc atctactgtg atgaggcctt acacagacct 180  
 atgtatgtct tccttgccct tctttccttc acagatgtgc tcatgtgcac cagcaccctt 240  
 cccaacactc tcttcatatt gtggtttaac ctcaaggaga ttgattttta agcctgcctc 300  
 gccagatgt tctttgtgca caccttcaca gggatggagt ctgggggtgct catgctcatg 360  
 gccctggacc actgtgtggc catctgcttc cctctgcgtt atgccaccat cctcactaat 420  
 tcagtcattg ctaaagctgg gttcctcact tttcttaggg gtgtgatgct tggtatccct 480  
 tccactttcc tcaccaagcg ccttccatac tgcaagggca acgtcatacc ccacacctac 540  
 tgtgaccaca tgtctgtggc caagatatct tgtgggtaatg tcagggttaa cgccatctat 600  
 ggtttgatag ttgccctgct gattgggggc tttgatatcc tgtgcattac aatctcctac 660  
 actatgattc ttcaagcagt tgtgagtcta tcatcagcag atgctcgaca gaaggccttc 720  
 agcacctgca ctgcccactt ctgtgccata gtctcactc atgttcagc cttctttacc 780  
 ttctttacac accatttttg gggacacacc attcctctac acatacatat tattatggct 840  
 aatctctacc tactaatgcc tcccacaatg aaccctattg tgtatggggg gaaaaccagg 900  
 caggtacgag aaagtgtcat taggttcttt cttaagggaa aggacaattc tcataacttt 960  
 taa 963

<210> 123  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 123  
 Met Ser Gly Asp Asn Ser Ser Ser Leu Thr Pro Gly Phe Phe Ile Leu  
 1 5 10 15  
 Asn Gly Val Pro Gly Leu Glu Ala Thr His Ile Trp Ile Ser Leu Pro  
 20 25 30  
 Phe Cys Phe Met Tyr Ile Ile Ala Val Val Gly Asn Cys Gly Leu Ile  
 35 40 45

Cys	Leu	Ile	Ser	His	Glu	Glu	Ala	Leu	His	Arg	Pro	Met	Tyr	Tyr	Phe	50	55	60
Leu	Ala	Leu	Leu	Ser	Phe	Thr	Asp	Val	Thr	Leu	Cys	Thr	Thr	Met	Val	65	70	75
Pro	Asn	Met	Leu	Cys	Ile	Phe	Trp	Phe	Asn	Leu	Lys	Glu	Ile	Asp	Phe	85	90	95
Asn	Ala	Cys	Leu	Ala	Gln	Met	Phe	Phe	Val	His	Met	Leu	Thr	Gly	Met	100	105	110
Glu	Ser	Gly	Val	Leu	Met	Leu	Met	Ala	Leu	Asp	Arg	Tyr	Val	Ala	Ile	115	120	125
Cys	Tyr	Pro	Leu	Arg	Tyr	Ala	Thr	Ile	Leu	Thr	Asn	Pro	Val	Ile	Ala	130	135	140
Lys	Ala	Gly	Leu	Ala	Thr	Phe	Leu	Arg	Asn	Val	Met	Leu	Ile	Ile	Pro	145	150	155
Phe	Thr	Leu	Leu	Thr	Lys	Arg	Leu	Pro	Tyr	Cys	Arg	Gly	Asn	Phe	Ile	165	170	175
Pro	His	Thr	Tyr	Cys	Asp	His	Met	Ser	Val	Ala	Lys	Val	Ser	Cys	Gly	180	185	190
Asn	Phe	Lys	Val	Asn	Ala	Ile	Tyr	Gly	Leu	Met	Val	Ala	Leu	Leu	Ile	195	200	205
Gly	Val	Phe	Asp	Ile	Cys	Cys	Ile	Ser	Val	Ser	Tyr	Thr	Met	Ile	Leu	210	215	220
Gln	Ala	Val	Met	Ser	Leu	Ser	Ser	Ala	Asp	Ala	Arg	His	Lys	Ala	Phe	225	230	235
Ser	Thr	Cys	Thr	Ser	His	Met	Cys	Ser	Ile	Val	Ile	Thr	Tyr	Val	Ala	245	250	255
Ala	Phe	Phe	Thr	Phe	Phe	Thr	His	Arg	Phe	Val	Gly	His	Asn	Ile	Pro	260	265	270
Asn	His	Ile	His	Ile	Ile	Val	Ala	Asn	Leu	Tyr	Leu	Leu	Leu	Pro	Pro	275	280	285
Thr	Met	Asn	Pro	Ile	Val	Tyr	Gly	Val	Lys	Thr	Lys	Gln	Ile	Gln	Glu	290	295	300
Gly	Val	Ile	Lys	Phe	Leu	Leu	Gly	Asp	Lys	Val	Ser	Phe	Thr	Tyr	Asp	305	310	315

Lys

<210> 124  
 <211> 966  
 <212> DNA  
 <213> Homo sapiens

<400> 124

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gtcgtgggga actgtgggct catctgcctc atcagccatg aggaggccct gcaccggccc 180
atgtactact tcctggccct gctctccttc actgatgtca ccttgtgcac caccatggta 240
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gccagatgt tttttgtcca tatgtgaca gggatggagt ctgggggtgct catgctcatg 360
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tgtgaccata tgtctgtggc caaggatatc tgtggcaatt tcaaggtaa tgctatttat 600
ggctctgatg ttgctctcct gattgggtgtg tttgatatct gctgtatctc tgtatcttac 660
actatgattt tgcaggctgt tatgagcctg tcatcagcag atgctcgtca caaagccttc 720
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tttttctact atcgttttgt aggacacaat atcccaaacc acatacacat catcgtggcc 840
aacctttatc tgctactgcc tcctaccatg aacccaattg tttatggagt caagaccaag 900
cagattcagg aagggtgtaat taaattttta cttggagaca aggttagttt tacctatgac 960
aatga 966
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<210> 125

<211> 315

<212> PRT

<213> Homo sapiens

<400> 125

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Met Thr Thr His Arg Asn Asp Thr Leu Ser Thr Glu Ala Ser Asp Phe
  1                      5                      10                      15

Leu Leu Asn Cys Phe Val Arg Ser Pro Ser Trp Gln His Trp Leu Ser
      20                      25                      30

Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Val Gly Ala Asn Thr Thr
      35                      40                      45

Leu Leu Met Thr Ile Trp Leu Glu Ala Ser Leu His Gln Pro Leu Tyr
      50                      55                      60

Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr
      65                      70                      75                      80

Val Ile Pro Lys Val Leu Thr Ile Phe Trp Phe Asp Leu Arg Pro Ile
      85                      90                      95

Ser Phe Pro Ala Cys Phe Leu Gln Met Tyr Ile Met Asn Cys Phe Leu
      100                      105                      110

Ala Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val
      115                      120                      125

Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp His Phe
      130                      135                      140

Val Val Lys Ala Ala Met Phe Ile Leu Thr Arg Asn Val Leu Met Thr
      145                      150                      155                      160

Leu Pro Ile Pro Ile Leu Ser Ala Gln Leu Arg Tyr Cys Gly Arg Asn
      165                      170                      175

Val Ile Glu Asn Cys Ile Cys Ala Asn Met Ser Val Ser Arg Leu Ser
      180                      185                      190
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Cys Asp Asp Val Thr Ile Asn His Leu Tyr Gln Phe Ala Gly Gly Trp  
 195 200 205  
 Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Phe Leu Ser Tyr Thr Phe  
 210 215 220  
 Ile Leu Arg Ala Val Leu Arg Leu Lys Ala Glu Gly Ala Val Ala Lys  
 225 230 235 240  
 Ala Leu Ser Thr Cys Gly Ser His Phe Met Leu Ile Leu Phe Phe Ser  
 245 250 255  
 Thr Ile Leu Leu Val Phe Val Leu Thr His Val Ala Lys Lys Lys Val  
 260 265 270  
 Ser Pro Asp Val Pro Val Leu Leu Asn Val Leu His His Val Ile Pro  
 275 280 285  
 Ala Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Gln Glu Ile Lys  
 290 295 300  
 Gln Gly Met Gln Arg Leu Leu Lys Lys Gly Cys  
 305 310 315

<210> 126  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 126  
 atgacaacac accgaaatga caccctctcc actgaagctt cagacttcct cttgaattgt 60  
 tttgtcagat cccccagctg gcagcaactgg ctgtccctgc ccctcagcct ccttttccctc 120  
 ttggccgtag gggccaacac caccctcctg atgaccatct ggctggaggc ctctctgcac 180  
 cagcccctgt actacctgct cagcctcctc tccctgctgg acatcgtgct ctgcctcact 240  
 gtcattccca aggtcctgac catcttctgg tttgacctca ggcccatcag cttccctgcc 300  
 tgcttccctcc agatgtacat catgaattgt ttccctagcca tggagtcttg cacattcatg 360  
 gtcattggcct atgatcgtaa tgtagccatc tgccacccac tgagatatcc atcaatcatc 420  
 actgatcact ttgtagtcaa ggctgccatg tttattttga ccagaaatgt gcttatgact 480  
 ctgcccattcc ccattccttc agcacaactc cgctattgtg gaagaaatgt cattgagaac 540  
 tgcattctgtg ccaatatgtc tgtttccaga ctctcctgcg atgatgtcac catcaatcac 600  
 ctttaccat ttgctggagg ctggactctg ctaggatctg acctcctcct tatcttccctc 660  
 tcctacacct tcattctgct agctgtgctg agactcaagg cagaggggtgc cgtggcaaag 720  
 gccctaagca catgtggctc ccacttcatg ctcactcctc tcttcagcac catccttctg 780  
 gtttttgtcc tcacacatgt ggctaagaag aaagtctccc ctgatgtgcc agtcttgctc 840  
 aatgttctcc accatgtcat tcctgcagcc cttaacccca tcatttacgg ggtgagaacc 900  
 caagaaatta agcaggaat gcagaggttg ttgaagaaag ggtgctaa 948

<210> 127  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 127  
 Met Ser Tyr Ser Ile Tyr Lys Ser Thr Val Asn Ile Pro Leu Ser His  
 1 5 10 15  
 Gly Val Val His Ser Phe Cys His Asn Met Asn Cys Asn Phe Met His  
 20 25 30

Ile	Phe	Lys	Phe	Val	Leu	Asp	Phe	Asn	Met	Lys	Asn	Val	Thr	Glu	Val
		35					40					45			
Thr	Leu	Phe	Val	Leu	Lys	Gly	Phe	Thr	Asp	Asn	Leu	Glu	Leu	Gln	Thr
	50					55					60				
Ile	Phe	Phe	Phe	Leu	Phe	Leu	Ala	Ile	Tyr	Leu	Phe	Thr	Leu	Met	Gly
65					70					75					80
Asn	Leu	Gly	Leu	Ile	Leu	Val	Val	Ile	Arg	Asp	Ser	Gln	Leu	His	Lys
				85					90					95	
Pro	Met	Tyr	Tyr	Phe	Leu	Ser	Met	Leu	Ser	Ser	Val	Asp	Ala	Cys	Tyr
			100					105					110		
Ser	Ser	Val	Ile	Thr	Pro	Asn	Met	Leu	Val	Asp	Phe	Thr	Thr	Lys	Asn
		115					120					125			
Lys	Val	Ile	Ser	Phe	Leu	Gly	Cys	Val	Ala	Gln	Val	Phe	Leu	Ala	Cys
	130					135					140				
Ser	Phe	Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp
145					150					155					160
Arg	Tyr	Val	Ala	Ile	Tyr	Asn	Pro	Leu	Leu	Tyr	Ser	Val	Ser	Met	Ser
				165					170					175	
Pro	Arg	Val	Tyr	Met	Pro	Leu	Ile	Asn	Ala	Ser	Tyr	Val	Ala	Gly	Ile
			180					185					190		
Leu	His	Ala	Thr	Ile	His	Thr	Val	Ala	Thr	Phe	Ser	Leu	Ser	Phe	Cys
		195					200					205			
Gly	Ala	Asn	Glu	Ile	Arg	Arg	Val	Phe	Cys	Asp	Ile	Pro	Pro	Leu	Leu
	210					215					220				
Ala	Ile	Ser	Tyr	Ser	Asp	Thr	His	Thr	Asn	Gln	Leu	Leu	Leu	Phe	Tyr
225					230					235					240
Phe	Val	Gly	Ser	Ile	Glu	Leu	Val	Thr	Ile	Leu	Ile	Val	Leu	Ile	Ser
				245					250					255	
Tyr	Gly	Leu	Ile	Leu	Leu	Ala	Ile	Leu	Lys	Met	Tyr	Ser	Ala	Glu	Gly
			260					265					270		
Arg	Arg	Lys	Val	Phe	Ser	Thr	Cys	Gly	Ala	His	Leu	Thr	Gly	Val	Ser
		275					280					285			
Ile	Tyr	Tyr	Gly	Thr	Ile	Leu	Phe	Met	Tyr	Val	Arg	Pro	Ser	Ser	Ser
	290					295					300				
Tyr	Ala	Ser	Asp	His	Asp	Met	Ile	Val	Ser	Ile	Phe	Tyr	Thr	Ile	Val
305					310					315					320
Ile	Pro	Leu	Leu	Asn	Pro	Val	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val
				325					330					335	
Lys	Asp	Ser	Met	Lys	Lys	Met	Phe	Gly	Lys	Asn	Gln	Val	Ile	Asn	Lys
			340					345					350		

Val Tyr Phe His Thr Lys Lys  
355

<210> 128  
<211> 1080  
<212> DNA  
<213> Homo sapiens

<400> 128  
atgtcgtaca gtatatacaa gagcacagtt aacatcccct tgagtcatgg tgttggtcat 60  
tctttttgtc ataatatgaa ctgtaacctt atgcatactc tcaagtttgt tctagatttc 120  
aacatgaaga atgtcactga agttacctta tttgtactga agggcttcac agacaatctt 180  
gaactgcaga ctatcttctt ctctctgttt ctagcaatct acctcttcac tctcatggga 240  
aatttaggac tgattttagt ggtcattagg gattcccagc tccacaaacc catgtactat 300  
tttctgagta tgttgtcttc tgtggatgcc tgctattcct cagttattac cccaaatatg 360  
ttagtagatt ttacgacaaa gaataaagtc atttcattcc ttggatgtgt agcacagggtg 420  
tttcttgctt gtagtttttg aaccacagaa tgctttctct tggctgcaat ggcttatgat 480  
cgctatgtag ccactacaaa cctctctctg tattcagtga gcatgtcacc cagagtctac 540  
atgccactca tcaatgcttc ctatgttgct ggcattttac atgctactat acatacagtg 600  
gctacattta gcctatcctt ctgtggagcc aatgaaatta ggcgtgtctt ttgtgatatc 660  
cctcctctcc ttgctatttc ttattctgac actcacacaa accagcttct actcttctac 720  
tttgtgggct ctatcgagct ggtcactatc ctgattgttc tgatctccta tggtttgatt 780  
ctgttggcca ttctgaagat gtattctgct gaagggagga gaaaagtctt ctccacatgt 840  
ggagctcacc taactggagt gtcaatttat tatgggacaa tcctcttcat gtatgtgaga 900  
ccaagttcca gctatgcttc ggaccatgac atgatagtgt caatatttta caccattgtg 960  
attcccttgc tgaatcccgat catctacagt ttgaggaaca aagatgtaaa agactcaatg 1020  
aaaaaaatgt ttgggaaaaa tcagggttatc aataaagtat attttcatac taaaaaataa 1080

<210> 129  
<211> 404  
<212> PRT  
<213> Homo sapiens

<400> 129  
Met Asp Ser Thr Phe Thr Gly Tyr Asn Leu Tyr Asn Leu Gln Val Lys  
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Thr Glu Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro  
20 25 30  
Leu Lys Asn Lys Thr Glu Val Thr Met Phe Ile Leu Thr Gly Phe Thr  
35 40 45  
Asp Asp Phe Glu Leu Gln Val Phe Leu Phe Leu Leu Phe Phe Ala Ile  
50 55 60  
Tyr Leu Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Leu Val Ile  
65 70 75 80  
Glu Asp Ser Trp Leu His Asn Pro Met Tyr Tyr Phe Leu Ser Val Leu  
85 90 95  
Ser Phe Leu Asp Ala Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu  
100 105 110  
Val Asn Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Ile Gly Cys Ala  
115 120 125  
Thr Met Asp Ser Thr Phe Thr Gly Tyr Asn Leu Tyr Asn Leu Gln Val



130	135	140
Lys Thr Glu Met Asp	Lys Leu Ser Ser Gly	Leu Asp Ile Tyr Arg Asn
145	150	155 160
Pro Leu Lys Asn Lys	Thr Glu Val Thr Met Phe	Ile Leu Thr Gly Phe
	165	170 175
Thr Asp Asp Phe Glu	Leu Gln Val Phe Leu Phe	Leu Leu Phe Phe Ala
	180	185 190
Ile Gln Met Leu Leu	Phe Val Thr Phe Gly Thr	Thr Glu Cys Phe Leu
	195	200 205
Leu Ala Ala Met Ala	Tyr Asp His Tyr Val	Ala Ile Tyr Asn Pro Leu
	210	215 220
Leu Tyr Ser Val Ser	Met Ser Pro Arg Val	Tyr Val Pro Leu Ile Thr
	225	230 235 240
Ala Ser Tyr Val Ala	Gly Ile Leu His Ala	Thr Ile His Ile Val Ala
	245	250 255
Thr Phe Ser Leu Ser	Phe Cys Gly Ser Asn	Glu Ile Arg His Val Phe
	260	265 270
Cys Asp Met Pro Pro	Leu Leu Ala Ile Ser	Cys Ser Asp Thr His Thr
	275	280 285
Asn Gln Leu Leu Leu	Phe Tyr Phe Val Gly	Ser Ile Glu Ile Val Thr
	290	295 300
Ile Leu Ile Val Leu	Ile Ser Cys Asp Phe	Ile Leu Leu Ser Ile Leu
	305	310 315 320
Lys Met His Ser Ala	Lys Gly Arg Gln Lys	Ala Phe Ser Thr Cys Gly
	325	330 335
Ser His Leu Thr Gly	Val Thr Ile Tyr His	Gly Thr Ile Leu Val Ser
	340	345 350
Tyr Met Arg Pro Ser	Ser Ser Tyr Ala Ser	Asp His Asp Ile Ile Val
	355	360 365
Ser Ile Phe Tyr Thr	Ile Val Ile Pro Lys	Leu Asn Pro Ile Ile Tyr
	370	375 380
Ser Leu Arg Asn Lys	Glu Val Lys Lys Ala	Val Lys Lys Met Leu Lys
	385	390 395 400
Leu Val Tyr Lys		

<210> 130  
 <211> 1023  
 <212> DNA  
 <213> Homo sapiens

<400> 130  
 atggactcca ctttcacagg ctataacctt tataacctgc aagtaaaaac tgaaatggac 60

165	170	175
Phe Val Pro Phe Cys Gly Pro Asn Glu Ile Asp His Tyr Phe Cys Asp		
180	185	190
Val Tyr Pro Leu Leu Lys Leu Ala Cys Ser Asn Ile His Met Ile Gly		
195	200	205
Leu Leu Val Ile Ala Asn Ser Gly Leu Ile Ala Leu Val Thr Phe Val		
210	215	220
Val Leu Leu Leu Ser Tyr Val Phe Ile Leu Tyr Thr Ile Arg Ala Tyr		
225	230	235
Ser Ala Glu Arg Arg Ser Lys Ala Leu Ala Thr Cys Ser Ser His Val		
245	250	255
Ile Val Val Val Leu Phe Phe Ala Pro Ala Leu Phe Ile Tyr Ile Arg		
260	265	270
Pro Val Thr Thr Phe Ser Glu Asp Lys Val Phe Ala Leu Phe Tyr Thr		
275	280	285
Ile Ile Ala Pro Met Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn Thr		
290	295	300
Glu Met Lys Asn Ala Met Arg Lys Val Trp Cys Cys Gln Ile Leu Leu		
305	310	315
Lys Arg Asn Gln Leu Phe		
325		

<210> 104  
 <211> 981  
 <212> DNA  
 <213> Homo sapiens

<400> 104  
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 agcactttgt ttattctctt ggggttttcc caaaataaga acattgaagt cctctgcttt 120  
 gtattatttt tgttttgcta cattgctatt tggatgggaa acttactcat aatgatttct 180  
 atcacgtgca cccagctcat tcaccaaccc atgtatttct tcctcaatta cctctcactc 240  
 tccgaccttt gctacacatc cacagtgacc cccaaattaa tggttgactt actggcagaa 300  
 agaaagacca tttctataaa taactgtatg atacaactct ttaccaccca tttttttgga 360  
 ggcatagaga tcttcattct cacagggatg gcctatgacc gctatgtggc catttgcaag 420  
 cccctgcact acaccattat tatgagcagg caaaagtgtg acacaatcat catagtttgt 480  
 tgtactgggg gatttataca ttctgccagt cagtttcttc tcaccatctt tgtaccattt 540  
 tgtggcccaa atgagataga tcactacttc tgtgatgtgt atcctttgct gaaattggcc 600  
 tgttctaata tacacatgat aggtctctta gtcattgcta attcaggctt aattgctttg 660  
 gtgacatttg ttgtcttggt gttgtcttat gtttttatat tgtataccat cagagcatac 720  
 tctgcagaga gacgcagcaa agctcttgcc acttgtagtt ctcatgtaat tgttggtggtc 780  
 ctgttttttg ctctgcatt gttcatttac attagaccgg tcacaacatt ctcagaagat 840  
 aaagtgtttg ccctttttta taccatcatt gctcccatgt tcaaccctct catatacacg 900  
 ctgagaaaca cagagatgaa gaacgccatg aggaaagtgt ggtgttgtca aatactcctg 960  
 aaaagaaatc aacttttctg a 981

<210> 105  
 <211> 370  
 <212> PRT

<213> Homo sapiens

<400> 105

Met	Phe	Ser	Met	Thr	Thr	Glu	Ala	Leu	Asn	Asn	Phe	Ala	Leu	Gly	Cys
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Thr	Asn	Leu	Leu	Met	Thr	Met	Ile	Pro	Gln	Ile	Asp	Leu	Lys	Gln	Ile
			20				25						30		
Phe	Leu	Cys	Pro	Asn	Cys	Arg	Leu	Tyr	Met	Ile	Pro	Val	Gly	Ala	Phe
		35					40					45			
Ile	Phe	Ser	Leu	Gly	Asn	Met	Gln	Asn	Gln	Ser	Phe	Val	Thr	Glu	Phe
	50					55					60				
Val	Leu	Leu	Gly	Leu	Ser	Gln	Asn	Pro	Asn	Val	Gln	Glu	Ile	Val	Phe
65					70					75					80
Val	Val	Phe	Leu	Phe	Val	Tyr	Ile	Ala	Thr	Val	Gly	Gly	Asn	Met	Leu
				85					90					95	
Ile	Val	Val	Thr	Ile	Leu	Ser	Ser	Pro	Ala	Leu	Leu	Val	Ser	Pro	Met
			100					105						110	
Tyr	Phe	Phe	Leu	Gly	Phe	Leu	Ser	Phe	Leu	Asp	Ala	Cys	Phe	Ser	Ser
		115					120					125			
Val	Ile	Thr	Pro	Lys	Met	Ile	Val	Asp	Ser	Leu	Tyr	Val	Thr	Lys	Thr
	130					135					140				
Ile	Ser	Phe	Glu	Gly	Cys	Met	Met	Gln	Leu	Phe	Ala	Glu	His	Phe	Phe
145					150					155					160
Ala	Gly	Val	Glu	Val	Ile	Val	Leu	Thr	Ala	Met	Ala	Tyr	Asp	Arg	Tyr
				165					170					175	
Val	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	Ser	Ser	Ile	Met	Asn	Arg	Arg
			180					185					190		
Leu	Cys	Gly	Ile	Leu	Met	Gly	Val	Ala	Trp	Thr	Gly	Gly	Leu	Leu	His
		195					200					205			
Ser	Met	Ile	Gln	Ile	Leu	Phe	Thr	Phe	Gln	Leu	Pro	Phe	Cys	Gly	Pro
	210					215					220				
Asn	Val	Ile	Asn	His	Phe	Met	Cys	Asp	Leu	Tyr	Pro	Leu	Leu	Glu	Leu
225					230					235					240
Ala	Cys	Thr	Asp	Thr	His	Ile	Phe	Gly	Leu	Met	Val	Val	Ile	Asn	Ser
				245					250					255	
Gly	Phe	Ile	Cys	Ile	Ile	Asn	Phe	Ser	Leu	Leu	Leu	Val	Ser	Tyr	Ala
			260					265					270		
Val	Ile	Leu	Leu	Ser	Leu	Arg	Thr	His	Ser	Ser	Glu	Gly	Arg	Trp	Lys
		275					280					285			
Ala	Leu	Ser	Thr	Cys	Gly	Ser	His	Ile	Ala	Val	Val	Ile	Leu	Phe	Phe
	290					295					300				
Val	Pro	Cys	Ile	Phe	Val	Tyr	Thr	Arg	Pro	Pro	Ser	Ala	Phe	Ser	Leu

[illegible]

<400> 106						
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tacatgatcc	ctgttgaggc	tttcatcttt	tccttgggaa	acatgcaaaa	ccaaagcttt	180
gtaactgagt	ttgtcctcct	gggactttca	cagaatccaa	atgttcagga	aatagtatatt	240
gttgatatttt	tgttttgtcta	cattgcaact	gttggggggca	acatgctaata	tgtagtaacc	300
attctcagca	gccctgctct	tctgggtgtct	cctatgtact	tcttcttggg	cttcctgtcc	360
ttcctggatg	cgtgcttctc	atctgtcatc	accccaaaga	tgattgtaga	ctccctctat	420
gtgacaaaaa	ccatctcttt	tgaaggctgc	atgatgcagc	tctttgtctg	acattctctt	480
ctggggggtg	agggtgattgt	cctcacagcc	atggcctatg	atcgttatgt	ggccatttgc	540
aagcccttgc	attactcttc	tatcatgaac	aggaggctct	gtggcattct	gatgggggta	600
gcctggacag	ggggcctctt	gcattccatg	atacaaattc	tttttacttt	ccagcttccc	660
ttttgtggcc	ccaatgtcat	caatcacttt	atgtgtgact	tgtacccgtt	actggagctt	720
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atcataaact	tctccttggt	gcttgtctcc	tatgctgtca	tcttgctctc	tctgagaaca	840
cacagttctg	aagggcgctg	gaaagctctc	tccacctgtg	gatctcacat	tgctgtttgtg	900
attttgtttc	ttgtcccatg	catattttga	tatacacgac	ctccatctgc	tttttccctt	960
gacaaaattg	cggcaatat	ttatatcatc	ttaaattccct	tgctcaatcc	tttgatttac	1020
actttcagga	ataagggaagt	aaaacaggcc	atgaggagaa	tatggaacag	actgatggtg	1080
gtttctgatg	agaaagaaaa	tattaaactt	taa			1113

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<400> 107
Met Gly Asp Trp Asn Asn Ser Asp Ala Val Glu Pro Ile Phe Ile Leu
  1             5             10             15

Arg Gly Phe Pro Gly Leu Glu Tyr Val His Ser Trp Leu Ser Ile Leu
          20             25             30

Phe Cys Leu Ala Tyr Leu Val Ala Phe Met Gly Asn Val Thr Ile Leu
          35             40             45

Ser Val Ile Trp Ile Glu Ser Ser Leu His Gln Pro Met Tyr Tyr Phe
  50             55             60

Ile Ser Ile Leu Ala Val Asn Asp Leu Gly Met Ser Leu Ser Thr Leu

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Asn His Ser Ala Glu Val Ile Lys Lys Ala Leu Ser Thr Cys Val Ser  
 225 230 235 240  
 His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Met Tyr  
 245 250 255  
 Thr Cys Pro Ala Thr Val Phe Pro Met Asp Lys Met Ile Ala Val Phe  
 260 265 270  
 Tyr Thr Val Gly Thr Ser Phe Leu Asn Pro Val Ile Tyr Thr Leu Lys  
 275 280 285  
 Asn Thr Glu Val Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Leu  
 290 295 300  
 Ile Thr Asp Asp Lys Arg  
 305 310

<210> 154  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 154  
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 tgggaagaaa tagtgtttgt tttttttttg cgtctctact tgggaacact gttgggtaat 120  
 ttgctaataca ttattagtggt caaggccagc caggcactta agaaccacat gttcttcttc 180  
 cttttctact tatctttatc tgataacttg cttctctact ccatagcccc tagaatgatt 240  
 gtggatgccc ttttgaagaa gacaactatc tccttcagcg agtgcattgat ccaagtcttt 300  
 tcatcccatg tctttggctg cctggagatc ttcacctca tcctcacggc tgttgaccgc 360  
 tatgtggaca tctgtaagcc cctgcactac atgaccatca taagccagtg ggtctgtggt 420  
 gttttgatgg ctgtggcctg ggtgggatcc tgtgtgcatt ctttagttca gatttttctt 480  
 gccctgagtt tgccattctg tggccccaat gtgatcaatc actgtttctg tgacttgcag 540  
 cccttggtga aacaagcctg ttcagaaacc tatgtggtta acctactcct ggtttccaat 600  
 agtggggcca tttgtgcagt gagttatgtc atgctaatat tctcctatgt catcttcttg 660  
 cattctctga gaaaccacag tgctgaagtg ataaagaaag cactttccac atgtgtctcc 720  
 cacatcattg tggatcatctt gttctttgga ccttgcatat ttatgtacac atgccctgca 780  
 accgtattcc ccatggataa gatgatagct gtattttata cagttggaac atcttttctc 840  
 aaccctgtga tttacacgct gaagaatata gaagtgaata gtgccatgag gaagctttgg 900  
 agcaagaaat tgatcacaga tgacaaaaga taa 933

<210> 155  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 155  
 Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
 1 5 10 15  
 Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Leu Val Leu Leu Leu Pro  
 20 25 30  
 Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val  
 35 40 45  
 Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn  
 50 55 60

Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val  
65 70 75 80

Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys  
85 90 95

Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu  
100 105 110

Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro  
115 120 125

Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val  
130 135 140

Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile  
145 150 155 160

Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe  
165 170 175

Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr  
180 185 190

Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys  
195 200 205

Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile  
210 215 220

Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys  
225 230 235 240

Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe  
245 250 255

Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile  
260 265 270

Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile  
275 280 285

Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp  
290 295 300

Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg  
305 310 315 320

Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser  
325 330 335

Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys  
340 345

<210> 156

<211> 1044

<212> DNA

<213> Homo sapiens

<400> 156

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gaggtggagc tgctgctcct ggtgctcctg ctgcccacgt tcctgctgac tcttctgggg 120
aacctgctca tcatctccac tgtgctgtcc tgctcccgcc tccacacccc catgtacttc 180
ttcttgtgca acctctctat cctggacatc ctcttcacct cagtcattctc tccaaaagtg 240
ttggccaact taggatctag ggataaaacc atctcctttg ccggatgtat caccagtg 300
tatttctact ttttcttggg cacagttgag ttctctctgc tgacgggtcat gtcctatgac 360
cgttatgcca ccatctgctg cccctgaggg tacaccacca tcatgagacc ttctgtctgc 420
attgggaccg ttgtattctc ttgggtggga ggcttctctg ctgtgctctt tccaaccatc 480
ctcatctccc agctgccctt ctgtggctcc aatatcatta accacttctt ctgtgacagt 540
ggacccttgc tggccctggc ctgtgcagac accactgcca tcgagctgat ggattttatg 600
ctttcttcca tgggtcatct ctgctgcata gtctctgtgg cctattccta tacgtacatc 660
atcttgacca tagtgcgcat tccttctgca agtggaagga agaaggcctt taatacctgt 720
gcttcccacc tgaccatagt catcattcct agtggcatca ctgtgtttat ctatgtgact 780
ccctcccaga aagaatatct ggagatcaac aagatccctt tggttctgag cagtgtgggtg 840
actccattcc tcaaccctt tatataact ctgaggaatg acacagtgc gggagtcctc 900
agggatgtgt gggtcagggt tcgaggagtt tttgaaaaga ggatgagggc agtgctgaga 960
agcagattat cctccaacaa agaccaccaa ggaagggtt gctcttctcc accatgtgtc 1020
tattctgtaa agctccagtg ttag 1044

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<210> 157  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 157

Met	Gly	Ala	Lys	Asn	Asn	Val	Thr	Glu	Phe	Val	Leu	Phe	Gly	Leu	Phe
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Glu	Ser	Arg	Glu	Met	Gln	His	Thr	Cys	Phe	Val	Val	Phe	Phe	Leu	Phe
			20					25					30		
His	Val	Leu	Thr	Val	Leu	Gly	Asn	Leu	Leu	Val	Ile	Ile	Thr	Ile	Asn
			35				40					45			
Ala	Arg	Lys	Thr	Leu	Lys	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Gln	Leu
	50					55					60				
Ser	Phe	Ala	Asp	Ile	Cys	Tyr	Pro	Ser	Thr	Thr	Ile	Pro	Lys	Met	Ile
65					70					75				80	
Ala	Asp	Thr	Phe	Val	Glu	His	Lys	Ile	Ile	Ser	Phe	Asn	Gly	Cys	Met
				85					90					95	
Thr	Gln	Leu	Phe	Ser	Ala	His	Phe	Phe	Gly	Gly	Thr	Glu	Ile	Phe	Leu
		100						105					110		
Leu	Thr	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Arg	Pro	Leu
		115					120					125			
His	Tyr	Thr	Ala	Ile	Met	Asp	Cys	Arg	Lys	Cys	Gly	Leu	Leu	Ala	Gly
	130					135					140				
Ala	Ser	Trp	Leu	Ala	Gly	Phe	Leu	His	Ser	Ile	Leu	Gln	Thr	Leu	Leu
145					150					155					160
Thr	Val	Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Glu	Ile	Asp	Asn	Phe	Phe
			165						170					175	
Cys	Asp	Val	His	Pro	Leu	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Tyr	Met
			180					185					190		

Val Gly Leu Ile Val Val Ala Asn Ser Gly Met Ile Ser Leu Ala Ser  
195 200 205

Phe Phe Ile Leu Ile Ile Ser Tyr Val Ile Ile Leu Leu Asn Leu Arg  
210 215 220

Ser Gln Ser Ser Glu Asp Arg Arg Lys Ala Val Ser Thr Cys Gly Ser  
225 230 235 240

His Val Ile Thr Val Leu Leu Val Leu Met Pro Pro Met Phe Met Tyr  
245 250 255

Ile Arg Pro Ser Thr Thr Leu Ala Ala Asp Lys Leu Ile Ile Leu Phe  
260 265 270

Asn Ile Val Met Pro Pro Leu Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
275 280 285

Asn Asn Asp Val Lys Asn Ala Met Arg Lys Leu Phe Arg Val Lys Arg  
290 295 300

Ser Leu Gly Glu Lys  
305

<210> 158  
<211> 930  
<212> DNA  
<213> Homo sapiens

<400> 158  
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cttctggtca tcatcaccat caatgctaga aagaccctga agtctcccat gtatttcttc 180  
ctgagccagt tgtcttttgc tgacatatgt tatccatcca ctaccatacc caagatgatt 240  
gctgacactt ttgtggagca taagatcatc tccttcaatg gctgcatgac ccagctcttt 300  
tctgcccact tctttggtgg cactgagatc ttccctcctta cagccatggc ctatgaccgc 360  
tatgtggcca tctgtaggcc cctgcactac acagccatca tggattgccg gaagtgtggc 420  
ctgctagcgg gggcctcctg gttagctggc ttccctgcatt ccacccctgca gaccctcctc 480  
acggttcagc tgcctttttg tgggcccatt gagatagaca acttcttctg tgatgttcat 540  
cccctgctca agttggcctg tgcagacacc tacatggtag gtctcatcgt ggtggccaac 600  
agcggatatga tttcttttagc atcctttttt atccttatca tttcctatgt tatcatctta 660  
ctgaacctaa gaagccagtc atctgaggac cggcgtaagg ctgtctccac atgtggctca 720  
cacgtaatca ctgtcctttt gggtctcatg ccccccattg tcatgtacat tcgtccctcc 780  
accaccctgg ctgctgacaa acttatcatc ctctttaaca ttgtgatgcc acctttgctg 840  
aaccctttga tctatacact aaggaacaac gatgtgaaaa atgccatgag gaagctggtt 900  
aggtcaaga ggagcttagg ggagaagtga 930

<210> 159  
<211> 329  
<212> PRT  
<213> Homo sapiens

<400> 159  
Met Gln Leu Val Leu Leu Leu Met Phe Leu Leu Val Phe Ile Gly Asn  
1 5 10 15

Thr Ala Pro Ala Phe Ser Val Thr Leu Glu Ser Met Asp Ile Pro Gln  
20 25 30



Asn Ile Thr Glu Phe Phe Met Leu Gly Leu Ser Gln Asn Ser Glu Val  
 35 40 45  
 Gln Arg Val Leu Phe Val Val Phe Leu Leu Ile Tyr Val Val Thr Val  
 50 55 60  
 Cys Gly Asn Met Leu Ile Val Val Thr Ile Thr Ser Ser Pro Thr Leu  
 65 70 75 80  
 Ala Ser Pro Val Tyr Phe Phe Leu Ala Asn Leu Ser Phe Ile Asp Thr  
 85 90 95  
 Phe Tyr Ser Ser Ser Met Ala Pro Lys Leu Ile Ala Asp Ser Leu Tyr  
 100 105 110  
 Glu Gly Arg Thr Ile Ser Tyr Glu Cys Cys Met Ala Gln Leu Phe Gly  
 115 120 125  
 Ala His Phe Leu Gly Gly Val Glu Ile Ile Leu Leu Thr Val Met Ala  
 130 135 140  
 Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Asn Thr Thr Ile  
 145 150 155 160  
 Met Thr Arg His Leu Cys Ala Met Leu Val Gly Val Ala Trp Leu Gly  
 165 170 175  
 Gly Phe Leu His Ser Leu Val Gln Leu Leu Leu Val Leu Trp Leu Pro  
 180 185 190  
 Phe Cys Gly Pro Asn Val Ile Asn His Phe Ala Cys Asp Leu Tyr Pro  
 195 200 205  
 Leu Leu Glu Val Ala Cys Thr Asn Thr Tyr Val Ile Gly Leu Leu Val  
 210 215 220  
 Val Ala Asn Ser Gly Leu Ile Cys Leu Leu Asn Phe Leu Met Leu Ala  
 225 230 235 240  
 Ala Ser Tyr Ile Val Ile Leu Tyr Ser Leu Arg Ser His Ser Ala Asp  
 245 250 255  
 Gly Arg Cys Lys Ala Leu Ser Thr Cys Gly Ala His Phe Ile Val Val  
 260 265 270  
 Ala Leu Phe Phe Val Pro Cys Ile Phe Thr Tyr Val His Pro Phe Ser  
 275 280 285  
 Thr Leu Pro Ile Asp Lys Asn Met Ala Leu Phe Tyr Gly Ile Leu Thr  
 290 295 300  
 Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Glu Glu Val Lys  
 305 310 315 320  
 Asn Ala Met Arg Lys Leu Phe Thr Trp  
 325

<210> 160

<211> 990

<212> DNA  
<213> Homo sapiens

<400> 160  
atgcaattag ttctattact tatgtttctc cttgtcttta taggcaatac tgcacctgca 60  
ttctcagtgga ccttggaatc tatggacata ccacaaaata tcacagaatt tttcatgctg 120  
gggctctcac agaactcaga ggtacagaga gttctctttg tgggtctttt gctgatctat 180  
gtggtcacgg tttgtggcaa catgctcatt gtggtcacta tcacctccag cccacgctg 240  
gcttcccctg tgtatttttt cctggccaac ctatccttta ttgacacctt ttattcttct 300  
tctatggctc ctaaactcat tgctgactca ttgtatgagg ggagaacat ctcttatgag 360  
tgctgcatgg ctcagctctt tggagctcat tttttgggag gtgttgagat cattctgctc 420  
acagtgatgg cttatgaccg ctatgtggcc atctgtaagc ccctgcacaa tactaccatc 480  
atgaccaggc atctctgtgc catgcttgta ggggtggctt ggcttggggg cttcctgcat 540  
tcattgggtc agctcctcct ggtccttttg ttgcccttct gtgggcccac tgtgatcaat 600  
cactttgcct gtgacttgta ccctttgctg gaagttgcct gcaccaatac gtatgtcatt 660  
ggtctgctgg tggttgccaa cagtgggtta atctgcctgt tgaacttcct catgctggct 720  
gcctcctaca ttgtcactct gtactccttg aggtcccaca gtgcagatgg gagatgcaa 780  
gccctctcca cctgtggagc ccacttcatt gttgttgctt tgttctttgt gccctgtata 840  
tttacttatg tgcattcatt ttctacttta cctatagaca aaaatatggc attattttat 900  
ggtattctga cacctatgtt gaatccactc atttataccc tgagaaatga agaggtaaaa 960  
aatgccatga gaaagctctt tacatggtaa 990

<210> 161  
<211> 359  
<212> PRT  
<213> Homo sapiens

<400> 161  
Met Asn Asn Ile Ala Gln Leu Ser Leu Gly Phe Ile Asp Leu Gly Ile  
1 5 10 15  
Pro Ser Val Leu Gln Lys Ile Ile Leu Thr Lys Ile Ile Leu Leu Phe  
20 25 30  
Lys Met Tyr Val Ser Asn Cys Asn Pro Cys Ala Ile His Arg Lys Ile  
35 40 45  
Asn Tyr Pro Asn Thr Lys Leu Asp Phe Glu Gln Val Asn Asn Ile Thr  
50 55 60  
Glu Phe Ile Leu Leu Gly Leu Thr Gln Asn Ala Glu Ala Gln Lys Leu  
65 70 75 80  
Leu Phe Ala Val Phe Thr Leu Ile Tyr Phe Leu Thr Met Val Asp Asn  
85 90 95  
Leu Ile Ile Val Val Thr Ile Thr Thr Ser Pro Ala Leu Asp Ser Pro  
100 105 110  
Val Tyr Phe Phe Leu Ser Phe Phe Ser Phe Ile Asp Gly Cys Ser Ser  
115 120 125  
Ser Thr Met Ala Pro Lys Met Ile Phe Asp Leu Leu Thr Glu Lys Lys  
130 135 140  
Thr Ile Ser Phe Ser Gly Cys Met Thr Gln Leu Phe Val Glu His Phe  
145 150 155 160  
Phe Gly Gly Val Glu Ile Ile Leu Leu Val Val Met Ala Tyr Asp Cys  
165 170 175

Tyr Val Ala Ile Cys Lys Pro Leu Tyr Tyr Leu Ile Thr Met Asn Arg  
 180 185 190  
 Gln Val Cys Gly Leu Leu Val Ala Met Ala Trp Val Gly Gly Phe Leu  
 195 200 205  
 His Ala Leu Ile Gln Met Leu Leu Ile Val Trp Leu Pro Phe Cys Gly  
 210 215 220  
 Pro Asn Val Ile Asp His Phe Ile Cys Asp Leu Phe Pro Leu Leu Lys  
 225 230 235 240  
 Leu Ser Cys Thr Asp Thr His Val Phe Gly Leu Phe Val Ala Ala Asn  
 245 250 255  
 Ser Gly Leu Met Cys Met Leu Ile Phe Ser Ile Leu Ile Thr Ser Tyr  
 260 265 270  
 Val Leu Ile Leu Cys Ser Gln Arg Lys Ala Leu Ser Thr Cys Ala Phe  
 275 280 285  
 His Ile Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Leu Val Tyr  
 290 295 300  
 Leu Arg Pro Met Ile Thr Phe Pro Ile Asp Lys Ala Val Ser Val Phe  
 305 310 315 320  
 Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 325 330 335  
 Asn Thr Glu Val Lys Asn Ala Met Lys Gln Leu Trp Ser Gln Ile Ile  
 340 345 350  
 Trp Gly Asn Asn Leu Cys Asp  
 355

<210> 162  
 <211> 1080  
 <212> DNA  
 <213> Homo sapiens

<400> 162  
 atgaataaca tagctcaact tagtcttggg tttatagatt tagggattcc atcagtgtta 60  
 cagaaaataa tcctgaccaa aattatttta ttgttcaaaa tgtatgtgtc aaattgcaat 120  
 ccttgtgcta ttcacagaaa aatcaattat ccaaatacca aactggattt cgagcaagtg 180  
 aacaacataa cggaattcat cttgcttggc ctgacacaga acgcagaggc acagaaactc 240  
 ttgtttgctg tgtttacact catctacttt ctcaccatgg tagacaacct aatcattgtg 300  
 gtgacaatca ccaccagccc agccctggac tcccccggtg atttttttct gtctttcttt 360  
 tccttcatag atggctgctc ctcttctacc atggccccca aaatgatatt tgacttactc 420  
 actgaaaaga aaactatttc cttcagtggg tgcattgaccc agctctttgt agaacatttc 480  
 tttgggggag ttgagatcat tctgctcgtg gtgatggcct atgactgcta tgtggccatc 540  
 tgcaagcccc tgtactacct gatcacaatg aacaggcagg tatgtggcct cctgggtggc 600  
 atggcatggg tcgggggatt tcttcacgct ctgattcaaa tgcttttaat agtctggctg 660  
 cccttctgtg gccccaatgt cattgaccat ttcattctgtg accttttccc tctgctaaaa 720  
 ctctcctgca ctgacactca cgtcttttga ctctttgttg ccgccaacag tgggctgatg 780  
 tgtatgtcta ttttttctat tcttattacc tcttacgtcc taatcctctg ctcacagcgg 840  
 aaggctctct ctacctgcgc ctccatatac actgtagtcg tcctattctt tgttcctgtg 900  
 atattggtgt accttcgacc catgatcacc ttccctattg ataaagctgt gtctgtgttt 960  
 tatactgtgg taacacccat gttaaaccct ttaatctaca ccctcagaaa cacagaggtg 1020

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<210> 163

<211> 323

<212> PRT

<213> Homo sapiens

<400> 163

Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly  
1 5 10 15

Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met  
20 25 30

Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu  
35 40 45

Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
50 55 60

Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys  
65 70 75 80

Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly  
85 90 95

Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys  
100 105 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125

Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met  
130 135 140

Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met  
145 150 155 160

Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His  
165 170 175

Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile  
180 185 190

Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu  
195 200 205

Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val  
210 215 220

Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys  
225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe  
245 250 255

Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val  
260 265 270

Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile

275

280

285

Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu  
 290 295 300

Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu  
 305 310 315 320

Pro Arg Val

<210> 164  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 164  
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 tcccttacc accttttcct tttctccttg accatgggtgg tcttccttat tgcgggtgagt 120  
 ggcaacaccc tcaccattct cctcatctgc attgatcccc agcttcatac accaatgtat 180  
 ttctgtctca gccagctctc cctcatggat ctgatgcatg tctccacaat catcctgaag 240  
 atggctacca actacctatc tggcaagaaa tctatctcct ttgtgggctg tgcaaccag 300  
 cacttcctct atttgtgtct aggtgggtgct gaatgttttc tcttagctgt catgtcctat 360  
 gaccgctatg ttgccatctg tcatccactg cgctatgctg tgctcatgaa caagaagggtg 420  
 ggactgatga tggctgtcat gtcattggtt ggggcatccg tgaactccct aattcacatg 480  
 gcgatcttga tgcacttccc tttctgtggg cctcggaag tctaccactt ctactgtgag 540  
 ttcccagctg ttgtgaagtt ggtatgtggc gacatcactg tgtatgagac cacagtgtac 600  
 atcagcagca ttctcctcct cctccccatc ttcttgattt ctacatccta tgtcttcac 660  
 cttcaaagtg tcattcagat gcgctcatct gggagcaaga gaaatgcctt tgccacttgt 720  
 ggctcccacc tcacgggtgt ttctcttttg tttggtgcct gcactttctc ctacatgaga 780  
 ccagggtccc agtgcactct attgcagaac aaagttgggt ctgtgttcta cagcatcatt 840  
 acgcccacat tgaattctct gatttatact ctccggaata aagatgtagc taaggctctg 900  
 agaagagtgc tgaggagaga tgttatcacc cagtgcattc aacgactgca attgtgggtg 960  
 ccccgagtgt ag 972

<210> 165  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 165  
 Met Leu Asp Pro Ser Ile Ser Ser His Thr Leu Tyr Leu His Ser Leu  
 1 5 10 15  
 Phe Pro Gln Gly Leu Arg Lys Gly Thr Met Trp Gln Lys Asn Gln Thr  
 20 25 30  
 Ser Leu Ala Asp Phe Ile Leu Glu Gly Leu Phe Asp Asp Ser Leu Thr  
 35 40 45  
 His Leu Phe Leu Phe Ser Leu Thr Met Val Val Phe Leu Ile Ala Val  
 50 55 60  
 Ser Gly Asn Thr Leu Thr Ile Leu Leu Ile Cys Ile Asp Pro Gln Leu  
 65 70 75 80  
 His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser Leu Met Asp Leu  
 85 90 95

Met His Val Ser Thr Thr Ile Leu Lys Met Ala Thr Asn Tyr Leu Ser  
 100 105 110  
 Gly Lys Lys Ser Ile Ser Phe Val Gly Cys Ala Thr Gln His Phe Leu  
 115 120 125  
 Tyr Leu Cys Leu Gly Gly Ala Glu Cys Phe Leu Leu Ala Val Met Ser  
 130 135 140  
 Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Val Leu  
 145 150 155 160  
 Met Asn Lys Lys Val Gly Leu Met Met Ala Val Met Ser Trp Leu Gly  
 165 170 175  
 Ala Ser Val Asn Ser Leu Ile His Met Ala Ile Leu Met His Phe Pro  
 180 185 190  
 Phe Cys Gly Pro Arg Lys Val Tyr His Phe Tyr Cys Glu Phe Pro Ala  
 195 200 205  
 Val Val Lys Leu Val Cys Gly Asp Ile Thr Val Tyr Glu Thr Thr Val  
 210 215 220  
 Tyr Ile Ser Ser Ile Leu Leu Leu Leu Pro Ile Phe Leu Ile Ser Thr  
 225 230 235 240  
 Ser Tyr Val Phe Ile Leu Gln Ser Val Ile Gln Met Arg Ser Ser Gly  
 245 250 255  
 Ser Lys Arg Asn Ala Phe Ala Thr Cys Gly Ser His Leu Thr Val Val  
 260 265 270  
 Ser Leu Trp Phe Gly Ala Cys Ile Phe Ser Tyr Met Arg Pro Arg Ser  
 275 280 285  
 Gln Cys Thr Leu Leu Gln Asn Lys Val Gly Ser Val Phe Tyr Ser Ile  
 290 295 300  
 Ile Thr Pro Thr Leu Asn Ser Leu Ile Tyr Thr Leu Arg Asn Lys Asp  
 305 310 315 320  
 Val Ala Lys Ala Leu Arg Arg Val Leu Arg Arg Asp Val Ile Thr Gln  
 325 330 335  
 Cys Ile Gln Arg Leu Gln Leu Trp Leu Pro Arg Val  
 340 345

<210> 166  
 <211> 1047  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 atgctggacc ccagtatttc cagtcacact ctttatctcc actctctggt tcctcagga 60  
 ttgagaaagg ggacaatgtg gcagaagaat cagacctctc tggcagactt catccttgag 120  
 gggctcttcg atgactccct taccacacct ttccctttct ccttgaccat ggtgggtctc 180  
 cttattgcgg tgagtggcaa caccctcacc attctcctca tctgcattga tcccagctt 240  
 catacaccaa tgtatttcct gctcagccag ctctccctca tggatctgat gcatgtctcc 300  
 acaaccatcc tgaagatggc taccaactac ctatctggca agaaatctat ctcctttgtg 360

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ggctgtgcaa cccagcactt cctctatttg tgtctaggtg gtgctgaatg ttttctctta 420
gctgtcatgt cctatgaccg ctatgttgcc atctgtcatc cactgcgcta tgctgtgctc 480
atgaacaaga aggtgggact gatgatggct gtcatgtcat gggtgggggc atccgtgaac 540
tccctaattc acatggcgat cttgatgcac ttccctttct gtgggcctcg gaaagtctac 600
cacttctact gtgagttccc agctgttgtg aagttgggtat gtggcgacat cactgtgtat 660
gagaccacag tgtacatcag cagcattctc ctccctctcc ccatcttcct gatttctaca 720
tcctatgtct tcacacctca aagtgtcatt cagatgcgct catctgggag caagagaaat 780
gcctttgcca cttgtggctc ccacctcacg gtggtttctc tttggtttgg tgcctgcac 840
ttctcctaca tgagaccag gtcccagtcg actctattgc agaacaaagt tggttctgtg 900
ttctacagca tcattacgcc cacattgaat tctctgattt atactctccg gaataaagat 960
gtagctaagg ctctgagaag agtgctgagg agagatgtta tcacccagtg cattcaacga 1020
ctgcaattgt ggttgccccg agtgtag 1047

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<210> 167  
 <211> 370  
 <212> PRT  
 <213> Homo sapiens

<400> 167

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Met Phe Ser Met Thr Thr Glu Ala Leu Asn Asn Phe Ala Leu Gly Cys
  1              5              10              15

Thr Asn Leu Leu Met Thr Met Ile Pro Gln Ile Asp Leu Lys Gln Ile
      20              25              30

Phe Leu Cys Pro Asn Cys Arg Leu Tyr Met Ile Pro Val Gly Ala Phe
      35              40              45

Ile Phe Ser Leu Gly Asn Met Gln Asn Gln Ser Phe Val Thr Glu Phe
      50              55              60

Val Leu Leu Gly Leu Ser Gln Asn Pro Asn Val Gln Glu Ile Val Phe
      65              70              75              80

Val Val Phe Leu Phe Val Tyr Ile Ala Thr Val Gly Gly Asn Met Leu
      85              90              95

Ile Val Val Thr Ile Leu Ser Ser Pro Ala Leu Leu Val Ser Pro Met
      100             105             110

Tyr Phe Phe Leu Gly Phe Leu Ser Phe Leu Asp Ala Cys Phe Ser Ser
      115             120             125

Val Ile Thr Pro Lys Met Ile Val Asp Ser Leu Tyr Val Thr Lys Thr
      130             135             140

Ile Ser Phe Glu Gly Cys Met Met Gln Leu Phe Ala Glu His Phe Phe
      145             150             155             160

Ala Gly Val Glu Val Ile Val Leu Thr Ala Met Ala Tyr Asp Arg Tyr
      165             170             175

Val Ala Ile Cys Lys Pro Leu His Tyr Ser Ser Ile Met Asn Arg Arg
      180             185             190

Leu Cys Gly Ile Leu Met Gly Val Ala Trp Thr Gly Gly Leu Leu His
      195             200             205

Ser Met Ile Gln Ile Leu Phe Thr Phe Gln Leu Pro Phe Cys Gly Pro
      210             215             220

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Asn Val Ile Asn His Phe Met Cys Asp Leu Tyr Pro Leu Leu Glu Leu  
 225 230 235 240  
 Ala Cys Thr Asp Thr His Ile Phe Gly Leu Met Val Val Ile Asn Ser  
 245 250 255  
 Gly Phe Ile Cys Ile Ile Asn Phe Ser Leu Leu Leu Val Ser Tyr Ala  
 260 265 270  
 Val Ile Leu Leu Ser Leu Arg Thr His Ser Ser Glu Gly Arg Trp Lys  
 275 280 285  
 Ala Leu Ser Thr Cys Gly Ser His Ile Ala Val Val Ile Leu Phe Phe  
 290 295 300  
 Val Pro Cys Ile Phe Val Tyr Thr Arg Pro Pro Ser Ala Phe Ser Leu  
 305 310 315 320  
 Asp Lys Met Ala Ala Ile Phe Tyr Ile Ile Leu Asn Pro Leu Leu Asn  
 325 330 335  
 Pro Leu Ile Tyr Thr Phe Arg Asn Lys Glu Val Lys Gln Ala Met Arg  
 340 345 350  
 Arg Ile Trp Asn Arg Leu Met Val Val Ser Asp Glu Lys Glu Asn Ile  
 355 360 365  
 Lys Leu  
 370

<210> 168  
 <211> 1113  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 atgttctcaa tgacaacaga agcactcaat aatthttgcac ttggatgtac caacttggtta 60  
 atgactatga taccacaaat tgatctgaag caaathttcc tttgtcctaa ttgcagacta 120  
 tacatgatcc ctgttgagc tttcatcttt tccttgggaa acatgcaaaa ccaaagcttt 180  
 gtaactgagt ttgtcctcct gggactttca cagaatccaa atgttcagga aatagtattt 240  
 gttgtatttt tgtttgtcta cattgcaact gttgggggca acatgctaata ttagtaacc 300  
 attctcagca gccctgctct tctggtgtct cctatgtact tcttcttggg ctctctgtcc 360  
 ttcttgatg cgtgcttctc atctgtcatc accccaaaga tgattgtaga ctccctctat 420  
 gtgacaaaaa ccatctcttt tgaaggctgc atgatgcagc tctttgctga acacttcttt 480  
 gctggggtgg aggtgattgt cctcacagcc atggcctatg atcgttatgt ggccatttgc 540  
 aagcccttgc attactcttc tatcatgaac aggaggtctt gtggcattct gatgggggta 600  
 gcttgacag ggggcctctt gcattccatg atacaaattc tttttacttt ccagcttccc 660  
 ttttggggc ccaatgtcat caatcacttt atgtgtgact tgtaccggtt actggagctt 720  
 gctgcactg atactcacat ctttggtctc atgtgtgtca tcaacagtgg gtttatctgc 780  
 atcataaact tctccttgtt gcttgtctcc tatgtgtca tcttgtcttc tctgagaaca 840  
 cacagtcttg aaggcgctg gaaagctctc tccacctgtg gatctcacat tgctgttgtg 900  
 attttgttct ttgtcccatg catatttgta tatacacgac ctccatctgc tttttccctt 960  
 gacaaaatgg cggcaatatt ttatatcatc ttaaattccct tgctcaatcc tttgatttac 1020  
 actttcagga ataaggaagt aaaacaggcc atgaggagaa tatggaacag actgatggtg 1080  
 gtttctgatg agaaagaaaa tattaactt taa 1113

<210> 169  
 <211> 313



<212> PRT

<213> Homo sapiens

<400> 169

Met Gly Asn Trp Ser Thr Val Thr Glu Ile Thr Leu Ile Ala Phe Pro  
1 5 10 15

Ala Leu Leu Glu Ile Arg Ile Ser Leu Phe Val Val Leu Val Val Thr  
20 25 30

Tyr Thr Leu Thr Ala Thr Gly Asn Ile Thr Ile Ile Ser Leu Ile Trp  
35 40 45

Ile Asp His Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
50 55 60

Ser Phe Leu Asp Ile Leu Tyr Thr Thr Val Ile Thr Pro Lys Leu Leu  
65 70 75 80

Ala Cys Leu Leu Gly Glu Glu Lys Thr Ile Ser Phe Ala Gly Cys Met  
85 90 95

Ile Gln Thr Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Ile Leu  
100 105 110

Leu Ala Val Met Ser Phe Asp Arg Tyr Met Ala Ile Cys Asp Pro Leu  
115 120 125

His Tyr Thr Val Ile Met Asn Ser Arg Ala Cys Leu Leu Leu Val Leu  
130 135 140

Gly Cys Trp Val Gly Ala Phe Leu Ser Val Leu Phe Pro Thr Ile Val  
145 150 155 160

Val Thr Arg Leu Pro Tyr Cys Arg Lys Glu Ile Asn His Phe Phe Cys .  
165 170 175

Asp Ile Ala Pro Leu Leu Gln Val Ala Cys Ile Asn Thr His Leu Ile  
180 185 190

Glu Lys Ile Asn Phe Leu Leu Ser Ala Leu Val Ile Leu Ser Ser Leu  
195 200 205

Ala Phe Thr Thr Gly Ser Tyr Val Tyr Ile Ile Ser Thr Ile Leu Arg  
210 215 220

Ile Pro Ser Thr Gln Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser  
225 230 235 240

His Ile Thr Val Val Ser Ile Ala His Gly Ser Asn Ile Phe Val Tyr  
245 250 255

Val Arg Pro Asn Gln Asn Ser Ser Leu Asp Tyr Asp Lys Val Ala Ala  
260 265 270

Val Leu Ile Thr Val Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ser  
275 280 285

Leu Arg Asn Glu Lys Val Gln Glu Val Leu Arg Glu Thr Val Asn Arg  
290 295 300

Ile Met Thr Leu Ile Gln Arg Lys Thr  
305 310

<210> 170  
<211> 942  
<212> DNA  
<213> Homo sapiens

<400> 170  
atgggaaact ggagcactgt gactgaaatc accctaattg ccttcccagc tctcctggag 60  
attcgaatat ctctcttcgt gggtcttctgt gtaacttaca cattaacagc aacaggaaac 120  
atcaccatca tctccctgat atggattgat catcgctgc aaactccaat gtacttcttc 180  
ctcagtaatt tgtcctttct ggatatctta tacaccactg tcattacccc aaagttgttg 240  
gcctgcctcc taggagaaga gaaaaccata tcttttgctg gttgcatgat ccaaacatat 300  
ttctacttct ttctggggac ggtggagttt atcctcttgg cggtgatgtc ctttgaccgc 360  
tacatggcta tctgcgaccc actgcactac acgggtcatca tgaacagcag ggcctgcctt 420  
ctgctggttc tgggatgctg ggtgggagcc ttctgtctg tgttgtttcc aaccattgta 480  
gtgacaaggc taccttactg taggaaagaa attaatacatt tcttctgtga cattgcccct 540  
cttcttcagg tggcctgtat aaatactcac ctcatgaga agataaaactt tctcctctct 600  
gcccttgcca tctgagctc cctggcattc actactgggt cctacgtgta cataatttct 660  
accatcctgc gtatcccctc caccagggc cgtcagaaag ctttttctac ctgtgcttct 720  
cacatcactg ttgtctccat tgcccacggg agcaacatct ttgtgtatgt gagaccat 780  
cagaactcct cactggatta tgacaagggt gccgctgtcc tcatcacagt ggtgaccct 840  
ctcctgaacc cttttatcta cagcttgagg aatgagaagg tacaggaagt gttgagagag 900  
acagtgaaca gaatcatgac cttgatacaa aggaaaactt ga 942

<210> 171  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 171  
Met Arg Asn Gly Thr Val Ile Thr Glu Phe Ile Leu Leu Gly Phe Pro  
1 5 10 15  
Val Ile Gln Gly Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr  
20 25 30  
Tyr Ile Leu Thr Leu Ala Gly Asn Gly Leu Ile Ile Ala Thr Val Trp  
35 40 45  
Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu  
50 55 60  
Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu  
65 70 75 80  
Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu  
85 90 95  
Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile  
100 105 110  
Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu  
115 120 125  
His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu  
130 135 140

Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu  
 145 150 155 160  
 Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr  
 165 170 175  
 Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile  
 180 185 190  
 Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser  
 195 200 205  
 Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu  
 210 215 220  
 Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala  
 225 230 235 240  
 Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met  
 245 250 255  
 Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val  
 260 265 270  
 Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr  
 275 280 285  
 Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr  
 290 295 300  
 Cys Pro Lys Thr Gly His Ala Lys  
 305 310

<210> 172  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 172  
 atgagaaatg gcacagtaat cacagaattc atcctgctag gctttcctgt tatccaaggc 60  
 ctacaaacac ctctctttat tgcaatcttt ctcacctaca tattaaccct tgcaggcaat 120  
 gggcttatta ttgccactgt gtgggctgag cccaggctac aaattccaat gtacttcttc 180  
 ctttgtaact tgtctttctt agaaatctgg tacaccacca cagtcatccc caaactgcta 240  
 ggaacctttg tagtggcaag aacagtaatc tgcattgtct gctgcctgct gcaggccttc 300  
 ttccacttct tcgtgggcac caccgagttc ttgatcctca ctatcatgtc ttttgaccgc 360  
 tacctcacca tctgcaatcc ccttcaccac cccaccatca tgaccagcaa actctgcctg 420  
 cagctggccc tgagctcctg ggtgggtggc ttcaccattg tcttttgtca gacgatgctg 480  
 ctcattccagt tgccattctg tggcaataat gttatcagtc atttctactg tgatgttggg 540  
 ccagtttga aagccgcctg catagacacc agcattttgg aactcctggg cgtcatagca 600  
 accatccttg tgatcccagg gtcacttctc tttaatatga tttcttatac ctacattctg 660  
 tccgcaatcc tacgaattcc ttcagccact ggccaccaa agactttctc tacctgtgcc 720  
 tcgcacctga cagttgtctc cctgctctac ggggctgttc tgttcatgta cctaagaccc 780  
 acagcacact cctcctttta gattaataag gtgggtgtctg tgctaaatac taccctcacc 840  
 ccccttctga atccctttat ttatactatt agaaacaagg aggtgaaggg agccttaaga 900  
 aaggcaatga cttgcccaaa gactggtcat gcaaagtaa 939

<210> 173  
 <211> 314  
 <212> PRT

<213> Homo sapiens

<400> 173

Met	Leu	Met	Asn	Tyr	Ser	Ser	Ala	Thr	Glu	Phe	Tyr	Leu	Leu	Gly	Phe
1				5					10					15	
Pro	Gly	Ser	Glu	Glu	Leu	His	His	Ile	Leu	Phe	Ala	Ile	Phe	Phe	Phe
			20					25					30		
Phe	Tyr	Leu	Val	Thr	Leu	Met	Gly	Asn	Thr	Val	Ile	Ile	Met	Ile	Val
		35					40					45			
Cys	Val	Asp	Lys	Arg	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Gly	His
	50					55					60				
Leu	Ser	Ala	Leu	Glu	Ile	Leu	Val	Thr	Thr	Ile	Ile	Val	Pro	Val	Met
65					70					75					80
Leu	Trp	Gly	Leu	Leu	Leu	Pro	Gly	Met	Gln	Thr	Ile	Tyr	Leu	Ser	Ala
			85						90					95	
Cys	Val	Val	Gln	Leu	Phe	Leu	Tyr	Leu	Ala	Val	Gly	Thr	Thr	Glu	Phe
			100					105					110		
Ala	Leu	Leu	Gly	Ala	Met	Ala	Val	Asp	Arg	Tyr	Val	Ala	Val	Cys	Asn
		115					120					125			
Pro	Leu	Arg	Tyr	Asn	Ile	Ile	Met	Asn	Arg	His	Thr	Cys	Asn	Phe	Val
	130					135					140				
Val	Leu	Val	Ser	Trp	Val	Phe	Gly	Phe	Leu	Phe	Gln	Ile	Trp	Pro	Val
145					150					155					160
Tyr	Val	Met	Phe	Gln	Leu	Thr	Tyr	Cys	Lys	Ser	Asn	Val	Val	Asn	Asn
				165					170					175	
Phe	Phe	Cys	Asp	Arg	Gly	Gln	Leu	Leu	Lys	Leu	Ser	Cys	Asn	Asn	Thr
			180					185					190		
Leu	Phe	Thr	Glu	Phe	Ile	Leu	Phe	Leu	Met	Ala	Val	Phe	Val	Leu	Phe
		195						200				205			
Gly	Ser	Leu	Ile	Pro	Thr	Ile	Val	Ser	Asn	Ala	Tyr	Ile	Ile	Ser	Thr
	210					215					220				
Ile	Leu	Lys	Ile	Pro	Ser	Ser	Ser	Gly	Arg	Arg	Lys	Ser	Phe	Ser	Thr
225					230					235					240
Cys	Ala	Ser	His	Phe	Thr	Cys	Val	Val	Ile	Gly	Tyr	Gly	Ser	Cys	Leu
				245					250					255	
Phe	Leu	Tyr	Val	Lys	Pro	Lys	Gln	Thr	Gln	Ala	Ala	Asp	Tyr	Asn	Trp
			260					265					270		
Val	Val	Ser	Leu	Met	Val	Ser	Val	Val	Thr	Pro	Phe	Leu	Asn	Pro	Phe
		275						280				285			
Ile	Phe	Thr	Leu	Arg	Asn	Asp	Lys	Val	Ile	Glu	Ala	Leu	Arg	Asp	Gly
	290					295					300				
Val	Lys	Arg	Cys	Cys	Gln	Leu	Phe	Arg	Asn						

305

310

<210> 174  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 174  
 atgttgatga attactctag tgccactgaa ttttatctcc ttggcttccc tggctctgaa 60  
 gaactacatc atatcctttt tgctatattc ttctttttct acttggtgac attaatggga 120  
 aacacagtca tcatcatgat tgtctgtgtg gataaacgtc tgcagtcctc catgtatttc 180  
 ttctctggcc acctctctgc cctggagatc ctggtcacaa ccataatcgt ccccgatgatg 240  
 ctttggggat tgctgtctcc tgggatgcag acaatatatt tgtctgcctg tgttgtccag 300  
 ctcttcttgt acctgtctgt ggggacaaca gagttcgcat tacttggagc aatggctgtg 360  
 gaccgttatg tggctgtctg taaccctctg aggtacaaca tcattatgaa cagacacacc 420  
 tgcaactttg tggttcttgt gtcattgggtg tttgggtttc tttttcaaact ctggccgggtc 480  
 tatgtcatgt ttcagcttac ttactgcaaa tcaaatgtgg tgaacaattt tttttgtgac 540  
 cgaggggcaat tgctcaaact atcctgcaat aatactcttt tcacggagtt tatcctcttc 600  
 ttaatggctg tttttgttct ctttgggttct ttgatcccta caattgtctc caacgcctac 660  
 atcatctcca ccattctcaa gatcccgta tctctgggc ggaggaaatc cttctccact 720  
 tgtgcctccc acttcacctg tgttgtgatt ggctacggca gctgcttgtt tctctacgtg 780  
 aaaccaagc aaacgcaggc agctgattac aattgggtag tttccctgat ggtttcagta 840  
 gtaactcctt tcctcaatcc ttcatcttc accctccgga atgataaagt catagaggcc 900  
 cttcgggatg gggtgaaacg ctgctgtcaa ctattcagga attag 945

<210> 175  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 175  
 Met Glu Thr Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu  
 1 5 10 15  
 Gly Ile Phe Ser His Ser Thr Ala Asp Leu Val Leu Phe Ser Val Val  
 20 25 30  
 Met Ala Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe  
 35 40 45  
 Leu Ile Tyr Met Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Thr Asn Val Pro  
 65 70 75 80  
 Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val  
 85 90 95  
 Gly Cys Gly Ile Gln Ile Gly Leu Phe Val Cys Leu Val Gly Ser Glu  
 100 105 110  
 Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser  
 115 120 125  
 His Pro Leu His Tyr Pro Ile Leu Met Asn Gln Arg Val Cys Leu Gln  
 130 135 140  
 Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Leu Ile Gln

145		150		155		160
Met Val Val Val	Met Asn Phe Pro Tyr Cys Gly Leu Arg Lys Val Asn					
	165		170		175	
His Phe Phe Cys Glu Met Leu Ser Leu Leu Lys Leu Ala Cys Val Asp						
	180		185		190	
Thr Ser Leu Phe Glu Lys Val Ile Phe Ala Cys Cys Val Phe Met Leu						
	195		200		205	
Leu Phe Pro Phe Ser Ile Ile Val Ala Ser Tyr Ala His Ile Leu Gly						
	210		215		220	
Thr Val Leu Gln Met His Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala						
	225		230		235	240
Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala						
	245		250		255	
Met Phe Ile Tyr Leu Arg Pro Arg His Tyr Arg Ala Pro Ser His Asp						
	260		265		270	
Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro						
	275		280		285	
Leu Ile Tyr Ser Leu Arg Asn Arg Glu Val Met Gly Ala Leu Arg Lys						
	290		295		300	
Gly Leu Asp Arg Cys Arg Ile Gly Ser Gln His						
	305		310		315	

<210> 176  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 176  
 atggagacgt ggggtgaacca gtcctacaca gatggcttct tcctcttagg catcttctcc 60  
 cacagtactg ctgaccttgt cctcttctcc gtggttatgg cggctcttcac agtggccctc 120  
 tgtgggaatg tcctcctcat ctctctcatc tacatggacc ctcaccttca ccccccatg 180  
 tacttcttcc tcagccagct ctccctcatg gacctcatgt tggctctgtac caatgtgcc 240  
 aagatggcag ccaacttctt gtctggcagg aagtccatct cctttgtggg ctgtggcata 300  
 caaattggcc tctttgtctg tcttgtggga tctgaggggc tcttgtctgg actcatggct 360  
 tatgaccgct atgtggccat tagccaccca cttcactatc ccacccctcat gaatcagagg 420  
 gtctgtctcc agattactgg gagctcctgg gcctttggga taatcgatgg cttgatccag 480  
 atgggtgtag taatgaattt cccctactgt ggcttgagga aggtgaacca tttcttctgt 540  
 gagatgctat ccttggtgaa gctggcctgt gtagacacat ccctggttga gaagtgata 600  
 tttgcttgct gtgtcttcat gcttctcttc ccattctcca tcacgtggc ctcctatgct 660  
 cacattctag ggactgtgct gcaaattgcac tctgtcagg cctggaaaaa ggccctggcc 720  
 acctgctcct cccacctgac agctgtcacc ctcttctatg gggcagccat gttcatctac 780  
 ctgaggccta ggcactaccg ggccccagc catgacaagg tggcctctat cttctacacg 840  
 gtccttactc ccatgctcaa cccctcatt tacagcttga ggaacaggga ggtgatggg 900  
 gcactgagga aggggctgga ccgctgcagg atcggcagcc agcactga 948

<210> 177  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 177

Met	Leu	Gly	Ser	Lys	Pro	Arg	Val	His	Leu	Tyr	Ile	Leu	Pro	Cys	Ala	
1				5					10					15		
Ser	Gln	Gln	Val	Ser	Thr	Met	Gly	Asp	Arg	Gly	Thr	Ser	Asn	His	Ser	
			20					25					30			
Glu	Met	Thr	Asp	Phe	Ile	Leu	Ala	Gly	Phe	Arg	Val	Arg	Pro	Glu	Leu	
		35					40					45				
His	Ile	Leu	Leu	Phe	Leu	Leu	Phe	Leu	Phe	Val	Tyr	Ala	Met	Ile	Leu	
	50					55					60					
Leu	Gly	Asn	Val	Gly	Met	Met	Thr	Ile	Ile	Met	Thr	Asp	Pro	Arg	Leu	
65					70					75					80	
Asn	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly	Asn	Leu	Ser	Phe	Ile	Asp	Leu	
				85					90					95		
Phe	Tyr	Ser	Ser	Val	Ile	Glu	Pro	Lys	Ala	Met	Ile	Asn	Phe	Trp	Ser	
			100					105					110			
Glu	Asn	Lys	Ser	Ile	Ser	Phe	Ala	Gly	Cys	Val	Ala	Gln	Leu	Phe	Leu	
	115						120					125				
Phe	Ala	Leu	Leu	Ile	Val	Thr	Glu	Gly	Phe	Leu	Leu	Ala	Ala	Met	Ala	
	130					135					140					
Tyr	Asp	Arg	Phe	Ile	Ala	Ile	Cys	Asn	Pro	Leu	Leu	Tyr	Ser	Val	Gln	
145					150					155					160	
Met	Ser	Thr	Arg	Leu	Cys	Thr	Gln	Leu	Val	Ala	Gly	Ser	Tyr	Phe	Cys	
				165					170					175		
Gly	Cys	Ile	Ser	Ser	Val	Ile	Gln	Thr	Ser	Met	Thr	Phe	Thr	Leu	Ser	
			180					185					190			
Phe	Cys	Ala	Ser	Arg	Ala	Val	Asp	His	Phe	Tyr	Cys	Asp	Ser	Arg	Pro	
		195					200					205				
Leu	Gln	Arg	Leu	Ser	Cys	Ser	Asp	Leu	Phe	Ile	His	Arg	Met	Ile	Ser	
	210					215					220					
Phe	Ser	Leu	Ser	Cys	Ile	Ile	Ile	Leu	Pro	Thr	Ile	Ile	Val	Ile	Ile	
225					230					235					240	
Val	Ser	Tyr	Met	Tyr	Ile	Val	Ser	Thr	Val	Leu	Lys	Ile	His	Ser	Thr	
				245					250					255		
Glu	Gly	His	Lys	Lys	Ala	Phe	Ser	Thr	Cys	Ser	Ser	His	Leu	Gly	Val	
			260					265					270			
Val	Ser	Val	Leu	Tyr	Gly	Ala	Val	Phe	Phe	Met	Tyr	Leu	Thr	Pro	Asp	
		275					280					285				
Arg	Phe	Pro	Glu	Leu	Ser	Lys	Val	Ala	Ser	Leu	Cys	Tyr	Ser	Leu	Val	
	290					295					300					
Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	
305					310					315					320	

Gln Glu Ala Leu Lys Lys Phe Leu Glu Lys Lys Asn Ile Ile Leu  
325 330 335

<210> 178  
<211> 1008  
<212> DNA  
<213> Homo sapiens

<400> 178  
atgctaggat ccaaaccaag agttcatttg tatattttgc cctgtgcctc tcaacagggt 60  
tctaccatgg gtgacagggg aacaagcaat cactcagaaa tgactgactt cattcttgca 120  
ggcttcaggg tacgccaga gctccacatt ctctcttcc tgctattttt gtttgtttat 180  
gccatgatcc ttctagggaa tggtgggatg atgaccatta ttatgactga tcctcggctg 240  
aacacaccaa tgtatttttt cctaggcaat ctctccttca ttgatctttt ctattcatct 300  
gttattgaac ccaaggctat gatcaacttc tgggtcgaaa acaagtctat ctcttttgca 360  
ggctgtgtgg ccagctctt tctctttgcc ctctcattg tgactgaggg atttctcctg 420  
gcggccatgg cttatgaccg ctttattgcc atctgcaacc ctctgctcta ctctgttcaa 480  
atgtccacac gtctgtgtac tcagttgggtg gctgggttctt atttttgtgg ctgcattagc 540  
tcagttattc agactagcat gacatttact ttatcttttt gcgcttctcg ggctgttgac 600  
cacttttact gtgattctcg cccacttcag agactgtctt gttctgatct ctttatccat 660  
agaatgatat ttttttcctt atcatgtatt attatcttgc ctactatcat agtcattata 720  
gtatcttaca tgtatattgt gtccacagtt ctaaagatac attctactga gggacataag 780  
aaggccttct ccacctgcag ctctcacctg ggagttgtga gtgtgctgta tgggtgctgtc 840  
ttttttatgt atctcactcc tgacagattt cctgagctga gtaaagtggc atccttatgt 900  
tactccctag tcactcccat gttgaatcct ttgatttact ctctgaggaa caaagatgtc 960  
caagaggctc taaaaaaatt tctagagaag aaaaatatta ttctttga 1008

<210> 179  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 179  
Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15  
Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu  
20 25 30  
Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val  
35 40 45  
Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln  
50 55 60  
Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys  
65 70 75 80  
Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly  
85 90 95  
Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Gly Ser Ser Glu Cys  
100 105 110  
Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
115 120 125  
Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met



130	135	140
Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr		
145	150	155 160
Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His		
	165	170 175
Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr		
	180	185 190
Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met		
	195	200 205
Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr		
	210	215 220
Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr		
	225	230 235 240
Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser		
	245	250 255
Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys		
	260	265 270
Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile		
	275	280 285
Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr		
	290	295 300
Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe		
305	310	315

<210> 180  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
 atgatctgtg aaaatcacac cagagtcact gaatttattc ttcttggttt tacaaacaac 60  
 cccgagatgc aagtttccct ctttattttt ttcttggttt tttatacagt cactttgttg 120  
 ggcaactttc ttattgtcac agttaccagt gtggatctcg cacttcaaac acccatgtac 180  
 ttctttcttc aaaatctgtc acttcttgaa gtatgtttca ccttggttat ggtgcaaaa 240  
 atgcttgtag atctagtgtc cccaaggaaa attatctctt ttgtgggctg tggtagccag 300  
 atgtacttct tcttcttctt tggcagttct gaatgtttcc ttctctccat gatggcttat 360  
 gatcgctttg tggccatctg taaccctctc cattattcag tcataatgaa caggtcccta 420  
 tgcttgtgga tggccatagg ctcttgatg tccggtgttc ctgtgtctat gctacagaca 480  
 gcttgatga tggcccttc tttctgtgga ccaaatgccg tggaccactt tttctgtgat 540  
 ggtcccccag tgtaaaact agtcacagt gatacaacca tgtatgaaat gcaagcactt 600  
 gcctccacac tcctgtttat catgtttccc tttgtctca ttttggtttc ctacaccgc 660  
 attatcataa caattctgag gatgtcctct gccactggcc gccagaaggc attttctact 720  
 tgttctcac acctcattgt ggtgtccctc ttctacggaa cagccagtct gacctactg 780  
 cggcccaaat caaaccagtc ccctgagagc aagaagctag tgtcattgtc ctacactgtc 840  
 atcacaccta tgctaaacc catcatctac ggcctgagga acaatgaagt gaaaggggct 900  
 gtcaagagga caatcactca aaaagtctta cagaagttag atgtgttttg a 951

<210> 181

<211> 362  
<212> PRT  
<213> Homo sapiens

<400> 181

Met	Thr	Glu	Phe	His	Leu	Gln	Ser	Gln	Met	Pro	Ser	Ile	Arg	Leu	Ile	
1				5					10					15		
Phe	Arg	Arg	Leu	Ser	Leu	Gly	Arg	Ile	Lys	Pro	Ser	Gln	Ser	Pro	Arg	
			20					25					30			
Cys	Ser	Thr	Ser	Phe	Met	Val	Val	Pro	Ser	Phe	Ser	Ile	Ala	Glu	His	
		35					40					45				
Trp	Arg	Arg	Met	Lys	Gly	Ala	Asn	Leu	Ser	Gln	Gly	Met	Glu	Phe	Glu	
	50					55					60					
Leu	Leu	Gly	Leu	Thr	Thr	Asp	Pro	Gln	Leu	Gln	Arg	Leu	Leu	Phe	Val	
65					70					75					80	
Val	Phe	Leu	Gly	Met	Tyr	Thr	Ala	Thr	Leu	Leu	Gly	Asn	Leu	Val	Met	
				85					90					95		
Phe	Leu	Leu	Ile	His	Val	Ser	Ala	Thr	Leu	His	Thr	Pro	Met	Tyr	Ser	
			100					105					110			
Leu	Leu	Lys	Ser	Leu	Ser	Phe	Leu	Asp	Phe	Cys	Tyr	Ser	Ser	Thr	Val	
		115					120					125				
Val	Pro	Gln	Thr	Leu	Val	Asn	Phe	Leu	Ala	Lys	Arg	Lys	Val	Ile	Ser	
	130					135					140					
Tyr	Phe	Gly	Cys	Met	Thr	Gln	Met	Phe	Phe	Tyr	Ala	Gly	Phe	Ala	Thr	
145					150					155					160	
Ser	Glu	Cys	Tyr	Leu	Ile	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	
				165					170					175		
Ile	Cys	Asn	Pro	Leu	Leu	Tyr	Ser	Thr	Ile	Met	Ser	Pro	Glu	Val	Cys	
			180					185					190			
Ala	Ser	Leu	Ile	Val	Gly	Ser	Tyr	Ser	Ala	Gly	Phe	Leu	Asn	Ser	Leu	
		195					200					205				
Ile	His	Thr	Gly	Cys	Ile	Phe	Ser	Leu	Lys	Phe	Cys	Gly	Ala	His	Val	
	210					215					220					
Val	Thr	His	Phe	Phe	Cys	Asp	Gly	Pro	Pro	Ile	Leu	Ser	Leu	Ser	Cys	
225					230					235					240	
Val	Asp	Thr	Ser	Leu	Cys	Glu	Ile	Leu	Leu	Phe	Ile	Phe	Ala	Gly	Phe	
				245					250					255		
Asn	Leu	Leu	Ser	Cys	Thr	Leu	Thr	Ile	Leu	Ile	Ser	Tyr	Phe	Leu	Ile	
			260					265					270			
Leu	Asn	Thr	Ile	Leu	Lys	Met	Ser	Ser	Ala	Gln	Gly	Arg	Phe	Lys	Ala	
		275					280					285				
Phe	Ser	Thr	Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Cys	Leu	Phe	Phe	Gly	
		290				295					300					

Thr Thr Leu Phe Met Tyr Leu Arg Pro Arg Ser Ser Tyr Ser Leu Thr  
305 310 315 320

Gln Asp Arg Thr Val Ala Val Ile Tyr Thr Val Val Ile Pro Val Leu  
325 330 335

Asn Pro Leu Met Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu  
340 345 350

Ile Lys Val Trp Gly Arg Lys Thr Met Glu  
355 360

<210> 182  
<211> 1089  
<212> DNA  
<213> Homo sapiens

<400> 182  
atgacagagt ttcatctgca aagccaaatg ccctcaataa gactcatctt cagaaggctg 60  
tccttaggca gaattaaacc cagtcagagc cccagggtgt caacctcatt tatgggtggg 120  
ccttctttct ccacgcgaga gcaactggaga aggatgaaag gggcaaacct gagccaaggg 180  
atggagtttg agctcttggg cctcaccact gacccccagc tccagaggct gctcttcgtg 240  
gtgttcctgg gcatgtacac agccactctg ctgggggaacc tggatcatgt cctcctgac 300  
catgtgagtg ccacctgca cacacccatg tactccctcc tgaagagcct ctcttcttg 360  
gatttctgct actcctccac ggttgtgccc cagaccctgg tgaacttctt ggccaagagg 420  
aaagtgatct cttatttttg ctgcatgact cagatgttct tctatgcggg ttttgccacc 480  
agtgaagtgt atctcatcgc tgccatggcc tatgaccgct atgccgctat ttgtaacccc 540  
ctgctctact caaccatcat gtctcctgag gtctgtgcct cgctgattgt gggctcctac 600  
agtgcaggat tcctcaattc tcttatccac actggctgta tctttagtct gaaattctgc 660  
ggtgctcatg tcgtcactca cttcttctgt gatgggccac ccacccctgtc cttgtcttgt 720  
gtagacacct cactgtgtga gatcctgctc ttcatttttg ctggtttcaa ccttttgagc 780  
tgacacctca ccactttgat ctctacttcc ttaattctca acaccatcct gaaaatgagc 840  
tcggcccagg gcagggtttaa ggcattttcc acctgtgcat cccacctcac tgccatctgc 900  
ctcttctttg gcacaacact ttttatgtac ctgcgccccg ggtccagcta ctcttgacc 960  
caggaccgca cagttgctgt catctacaca gtggtgatcc cagtgtgaa cccctcatg 1020  
tactctttga gaaacaagga tgtgaagaaa gctttaataa aggtttgggg taggaaaaca 1080  
atggaatga 1089

<210> 183  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 183  
Met Arg Gly Phe Asn Lys Thr Thr Val Val Thr Gln Phe Ile Leu Val  
1 5 10 15  
Gly Phe Ser Ser Leu Gly Glu Leu Gln Leu Leu Leu Phe Val Ile Phe  
20 25 30  
Leu Leu Leu Tyr Leu Thr Ile Leu Val Ala Asn Val Thr Ile Met Ala  
35 40 45  
Val Ile Arg Phe Ser Trp Thr Leu His Thr Pro Met Tyr Gly Phe Leu  
50 55 60  
Phe Ile Leu Ser Phe Ser Glu Ser Cys Tyr Thr Phe Val Ile Ile Pro  
65 70 75 80

Gln Leu Leu Val His Leu Leu Ser Asp Thr Lys Thr Ile Ser Phe Met  
                     85                    90                    95  
 Ala Cys Ala Thr Gln Leu Phe Phe Phe Leu Gly Phe Ala Cys Thr Asn  
                     100                    105                    110  
 Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
                     115                    120                    125  
 His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly Leu Glu  
                     130                    135                    140  
 Leu Ile Ser Leu Ser Gly Ala Thr Gly Phe Phe Ile Ala Leu Val Ala  
 145                    150                    155                    160  
 Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg Val Asn  
                     165                    170                    175  
 His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys Thr Asp  
                     180                    185                    190  
 Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu Val Ile  
                     195                    200                    205  
 Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile Val Asn  
                     210                    215                    220  
 Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe Val Thr  
 225                    230                    235                    240  
 Cys Ala Ser His Leu Thr Val Val Phe Val His Tyr Gly Cys Ala Ser  
                     245                    250                    255  
 Ile Ile Tyr Leu Arg Pro Lys Ser Lys Ser Ala Ser Asp Lys Asp Gln  
                     260                    265                    270  
 Leu Val Ala Val Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Leu  
                     275                    280                    285  
 Val Tyr Ser Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Arg Val  
                     290                    295                    300  
 Leu Gly Met Pro Val Ala Thr Lys Met Ser  
 305                    310

<210> 184  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 184  
 atgcgagggt tcaacaaaac cactgtgggt acacagttca tcttggtggg tttctccagc 60  
 ctgggggagc tccagctgct gctttttgtc atctttcttc tctatactt gacaatcctg 120  
 gtggccaatg tgaccatcat ggccgttatt cgcttcagct ggactctcca cactcccatg 180  
 tatggctttc tattcatcct ttcattttct gagtcctgct acacttttgt catcatccct 240  
 cagctgctgg tccacctgct ctcagacacc aagaccatct ccttcatggc ctgtgccacc 300  
 cagctgtttc ttttccttgg ctttgcttgc accaactgcc tctcatttgc tgtgatggga 360  
 tatgatcgct atgtagcaat ttgtcaccct ctgagggtaca cactcatcat aaacaaaagg 420  
 ctgggggttg agttgatttc tctctcagga gccacagggt tctttattgc tttggtggcc 480



Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser  
245 250 255

Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala  
260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile  
290 295 300

Val Arg Arg Thr Ile Ser Leu Leu  
305 310

<210> 186  
<211> 939  
<212> DNA  
<213> Homo sapiens

<400> 186  
atggagcggg tcaatgagac tgtggtgaga gaggtcatct tcctcggctt ctcacccctg 60  
gccaggctgc agcagctgct ctttggtatc ttctctgtcc tctacctgtt cactctgggc 120  
accaatgcaa tcatcatttc caccattgtc ctggacaggg cccttcatat ccccatgtac 180  
ttcttccttg ccatectctc ttgctctgag atttgctaca ccttcacatc tgtaccaag 240  
atgctggttg acctgctgtc ccagaagaag accatttctt tcctgggctg tgccatccaa 300  
atgttttctt tcctcttctt tggtctgtct cactcctttc tgctggcagt catgggttat 360  
gatcgttaca tagccatctg taaccactg cgctactcag tgctaattggg acatgggggtg 420  
tgtatgggac tagtggtctg tgccctgtgcc tgtggcttca ctggtgcaca gatcatcaca 480  
tccttggtat ttcacctgcc tttttattcc tccaatcaac tacatcactt cttctgtgac 540  
attgctcctg tcctcaagct ggcactctcac cataaccact ttagtcagat tgtcatcttc 600  
atgctctgta cattggctct ggctatcccc ttattgttga tcttggtgtc ctatgttcac 660  
atcctctctg ccatacttca gtttcttccc acactgggta ggtgcaaagc tttttctacc 720  
tgtgtatctc acctcattat tgtcactgtc cactatggct gtgcctcctt tatctactta 780  
aggcctcagt ccaactactc ctcaagccag gatgctctaa tatcagtatc ctacactatt 840  
ataactccat tgttcaaccc aatgatttat agcttgagaa ataaagagtt caaatcagct 900  
ctttgtaaaa ttgtgagaag aacaatttcc ctgttgtaa 939

<210> 187  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 187  
Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly  
1 5 10 15  
Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu  
20 25 30  
Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val  
35 40 45  
Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser  
50 55 60  
Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys  
65 70 75 80

Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly  
                     85                    90                    95  
 Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys  
                     100                    105                    110  
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg  
                     115                    120                    125  
 Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile  
                     130                    135                    140  
 Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile  
                     145                    150                    155                    160  
 Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His  
                     165                    170                    175  
 Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
                     180                    185                    190  
 Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu  
                     195                    200                    205  
 Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr  
                     210                    215                    220  
 Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr  
                     225                    230                    235                    240  
 Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu  
                     245                    250                    255  
 Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln  
                     260                    265                    270  
 Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe  
                     275                    280                    285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln  
                     290                    295                    300  
 Leu Lys Arg Ile Gly Ile Leu Ala  
                     305                    310

<210> 188  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 188  
 atggacacag ggaactggag ccaggtagca gaattcatca tcttgggctt ccccatctc 60  
 cagggtgtcc agatttatct cttcctcttg ttgcttctca tttacctcat gactgtgttg 120  
 ggaaacctgc tgatattcct ggtggctctgc ctggactccc ggcttcacac acccatgtac 180  
 cactttgtca gcattctctc cttctcagag cttggctata cagctgccac catccctaag 240  
 atgctggcaa acttgctcag tgagaaaaag accatttcat tctctgggtg tctcctgcag 300  
 atctatttct ttcactccct tggagcgact gagtgctatc tcctgacagc tatggcctac 360  
 gataggtatt tagccattct cgggcccctc cactacccaa ccctcatgac cccaacatt 420  
 tgtgcagaga ttgccatttg ctggttggtg ggaggcttgg ctgggccagt agttgaaatt 480  
 tccttgattt cagcctccc attctgtggc cccaatcgca ttcagcacgt cttttgtgac 540

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ttccctcctg tgetgagttt ggcttgcaact gatacgtcta taaatgtcct agtagatttt 600
gttataaatt cctgcaagat cctagccacc ttctgtctga tcctctgctc ctatgtgcag 660
atcatctgca cagtgtcag aattccctca gctgccggca agaggaaggc catctccacg 720
tgtgcctccc acttcaactgt ggttctcatc ttctatggga gcatcctttc catgtatgtg 780
cagctgaaga agagctactc actggactat gaccaggccc tggcagtggg ctactcagtg 840
ctcacaccct tcctcaaccc cttcatctac agcttgcgca acaaggagat caaggaggct 900
gtgaggaggc agctaaagag aattgggata ttggcatga 939

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<210> 189  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

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<400> 189
Met Pro Val Gly Lys Leu Val Phe Asn Gln Ser Glu Pro Thr Glu Phe
  1             5             10             15

Val Phe Arg Ala Phe Thr Thr Ala Thr Glu Phe Gln Val Leu Leu Phe
      20             25             30

Leu Leu Phe Leu Leu Leu Tyr Leu Met Ile Leu Cys Gly Asn Thr Ala
      35             40             45

Ile Ile Trp Val Val Cys Thr His Ser Thr Leu Arg Thr Pro Met Tyr
      50             55             60

Phe Phe Leu Ser Asn Leu Ser Phe Leu Glu Leu Cys Tyr Thr Thr Val
      65             70             75             80

Val Val Pro Leu Met Leu Ser Asn Ile Leu Gly Ala Gln Lys Pro Ile
      85             90             95

Ser Leu Ala Gly Cys Gly Ala Gln Met Phe Phe Phe Val Thr Leu Gly
      100            105            110

Ser Thr Asp Cys Phe Leu Leu Ala Ile Met Ala Tyr Asp Arg Tyr Val
      115            120            125

Ala Ile Cys His Pro Leu His Tyr Thr Leu Ile Met Thr Arg Glu Leu
      130            135            140

Cys Thr Gln Met Leu Gly Gly Ala Leu Gly Leu Ala Leu Phe Pro Ser
      145            150            155            160

Leu Gln Leu Thr Ala Leu Ile Phe Thr Leu Pro Phe Cys Gly His His
      165            170            175

Gln Glu Ile Asn His Phe Leu Cys Asp Val Pro Pro Val Leu Arg Leu
      180            185            190

Ala Cys Ala Asp Ile Arg Val His Gln Ala Val Leu Tyr Val Val Ser
      195            200            205

Ile Leu Val Leu Thr Ile Pro Phe Leu Leu Ile Cys Val Ser Tyr Val
      210            215            220

Phe Ile Thr Cys Ala Ile Leu Ser Ile Arg Ser Ala Glu Gly Arg Arg
      225            230            235            240

Arg Ala Phe Ser Thr Cys Ser Phe His Leu Thr Val Val Leu Leu Gln

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245

250

255

Tyr Gly Cys Cys Ser Leu Val Tyr Leu Arg Pro Arg Ser Ser Thr Ser  
 260 265 270

Glu Asp Glu Asp Ser Gln Ile Ala Leu Val Tyr Thr Phe Val Thr Pro  
 275 280 285

Leu Leu Asn Pro Leu Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly  
 290 295 300

Ala Leu Arg Ser Ala Ile Ile Arg Lys Ala Ala Ser Asp Ala Asn  
 305 310 315

&lt;210&gt; 190

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 190

atgcctgtgg ggaaacttgt cttcaaccag tctgagccca ctgagtttgt gttccgtgcg 60  
 ttcaccacag ccaactgaatt ccaggttctt ctcttccttc tcttcctcct cctctacttg 120  
 atgatcctct gtggcaacac agccatcatc tgggtgggtg gcacacacag caccctccgc 180  
 accccgatgt atttcttcct gtccaacctg tctttcctgg aactctgcta caccaccgtg 240  
 gtagtaccct tgatgctttc caacattttg ggggccaga agccatttc gttggctgga 300  
 tgtggggccc aaatgttctt ctttgtcacc ctggcgagca cggactgttt cctcttggcg 360  
 atcatggcct atgaccgcta tgtggctatc tgccaccgcg tgcactacac cctcatcatg 420  
 acccgcgagc tgtgcacgca gatgctgggt ggggccctgg gcctggccct cttcccctcc 480  
 ctgcagctca ccgccttaat cttcaccctg cccttttgcg gccaccacca ggaaatcaac 540  
 cacttccctc gcgatgtgcc tcccgtcctg cgccctggcct gcgctgacat ccgcgtgcac 600  
 caggctgtcc tctatgtcgt gagcatcctc gtgctgacca tccccttctc gctcatctgc 660  
 gtctcctacg tgttcatcac ctgtgccatc ctgagcatcc gttctgcccga gggccgcccgc 720  
 cgggccttct ccacctgctc cttccacctc accgtgggtc tgctgcagta tggctgctgc 780  
 agcctcgtgt acctgcgtcc tcggtccagc acctcagagg atgaggacag ccaaatcgcg 840  
 ttggtctaca cctttgtcac ccccttactc aaccctttgc tttacagcct taggaacaag 900  
 gatgtcaaag gtgctctgag gagtgccatt atccgtaaag cagcctctga cgccaactga 960

&lt;210&gt; 191

&lt;211&gt; 310

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 191

Met Ala Glu Met Asn Leu Thr Leu Val Thr Glu Phe Leu Leu Ile Ala  
 1 5 10 15

Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu Leu  
 20 25 30

Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu  
 35 40 45

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln  
 65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg

85

90

95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys  
100 105 110

Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln  
115 120 125

Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu  
130 135 140

Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr  
145 150 155 160

Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe  
165 170 175

Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser  
180 185 190

Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro  
195 200 205

Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala  
210 215 220

Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys  
225 230 235 240

Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe  
245 250 255

Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val  
260 265 270

Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu  
290 295 300

Asn Arg Ala Lys Leu Ser  
305 310

<210> 192

<211> 933

<212> DNA

<213> Homo sapiens

<400> 192

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gggaacttag	agatgattat	tctgatcctc	atggatcacc	agctccacgc	tccaatgtat	180
ttccttctga	gtcacctcgc	tttcatggac	gtctgtact	catctatcac	tgtcccccag	240
atgctggcag	tgctgtctga	gcatggggca	gctttatctt	acacacgctg	tgctgtctag	300
ttctttctgt	tcaccttctt	tggttccatc	gactgctacc	tcttggccct	catggcctat	360
gaccgctact	tggtgtgtgt	ccagcccctg	ctttatgtca	ccatcctgac	acagcaggcc	420
cgcttgagtc	ttgtggctgg	ggcttacggt	gctgggtctca	tcagtgcctt	ggtgcgga	480
gtctcagcct	tcactctctc	cttctgtgga	accagtgaga	ttgactttat	tttctgtgac	540
ctccctcctc	tgttaaagtt	gacctgtggg	gagagctaca	ctcaagaagt	gctgattatt	600

atgtttgccca tttttgtcat ccctgcttcc atgggtggtga tcttggtgtc ctacctgttt 660  
 atcatcgtagg ccatcatggg gatccctgct ggaagccagg ccaagacctt ctccacctgc 720  
 acctcccacc tcaactgctgt gtcactcttc tttggtaccc tcatcttcat gtacttgaga 780  
 ggtaactcag atcagtcttc ggagaagaat cgggtagtgt ctgtgcttta cacagaggtc 840  
 atccccatgt tgaatcccct catctacagc ctgaggaaca aggaagtga ggaggccctg 900  
 agaaaaattc tcaatagagc caagttgtcc taa 933

<210> 193  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 193  
 Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly  
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 Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Leu Phe Leu  
 20 25 30  
 Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr  
 35 40 45  
 Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys  
 50 55 60  
 Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg  
 65 70 75 80  
 Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala  
 85 90 95  
 Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser  
 100 105 110  
 Phe Leu Leu Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg  
 130 135 140  
 Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr  
 145 150 155 160  
 Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His  
 165 170 175  
 Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp  
 180 185 190  
 Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu  
 195 200 205  
 Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala  
 210 215 220  
 Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser  
 225 230 235 240  
 Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala  
 245 250 255

Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Ser Pro Glu Gly Asp  
260 265 270

Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro  
275 280 285

Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys  
290 295 300

Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys  
305 310 315

<210> 194  
<211> 948  
<212> DNA  
<213> Homo sapiens

<400> 194  
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ggcaacctgc tcatcatggc cactgtctgg agcgagcgca gcctccacat gcccatgtac 180  
ctcttcctgt gtgccctctc catcaccgag atcctctaca ccgtggccat catcccgcg 240  
atgctggccg acctgctgtc caccagcgcc tccatcgctt tcctggcctg tgccagtcag 300  
atgttcttct ctttcagctt cggcttcacc cactccttcc tgctcactgt catgggctac 360  
gaccgctacg tggccatctg ccacccctg cgttacaacg tgctcatgag cctgcggggc 420  
tgcacctgcc ggggtgggctg ctcctgggct ggtgggcttg tcatggggat ggtgggtgacc 480  
tcggccattt tccacctcgc cttctgtgga cacaaggaga tccaccattt cttctgccac 540  
gtgccacctc tgttgaagtt ggcctgtgga gatgatgtgc tgggtgggtggc caaaggcgtg 600  
ggcttggtgt gtatcacggc cctgctgggc tgttttctcc tcctcctcct ctcctatgcc 660  
ttcatcgctg ccgccatctt gaagatccct tctgctgaag gtcggaacaa ggccttctcc 720  
acctgtgcct ctcacctcac tgtggtgggc gtgcactatg gctttgcctc cgctcatctac 780  
ctgaagccca aaggtcccca gtctccggaa ggagacacct tgatgggcat cacctacacg 840  
gtcctcacac ctttctcag ccccatcatc ttcagcctca ggaacaagga gctgaaggctc 900  
gccatgaaga agacttgctt caccaaactc tttccacaga actgctga 948

<210> 195  
<211> 313  
<212> PRT  
<213> Homo sapiens

<400> 195  
Met Glu Thr Ala Asn Tyr Thr Lys Val Thr Glu Phe Val Leu Thr Gly  
1 5 10 15

Leu Ser Gln Thr Pro Glu Val Gln Leu Val Leu Phe Val Ile Phe Leu  
20 25 30

Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr  
35 40 45

Ile Ser Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala  
50 55 60

Asn Leu Ala Phe Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Glu  
65 70 75 80

Met Leu Ile Asp Phe Phe Val Glu Arg Lys Ile Ile Ser Phe Asp Gly  
85 90 95

Cys Ile Ala Gln Leu Phe Phe Leu His Phe Ala Gly Ala Ser Glu Met  
 100 105 110  
 Phe Leu Leu Thr Val Met Ala Phe Asp Leu Tyr Thr Ala Ile Cys Arg  
 115 120 125  
 Pro Leu His Tyr Ala Thr Ile Met Asn Gln Arg Leu Cys Cys Ile Leu  
 130 135 140  
 Val Ala Leu Ser Trp Arg Gly Gly Phe Ile His Ser Ile Ile Gln Val  
 145 150 155 160  
 Ala Leu Ile Val Arg Leu Pro Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175  
 Tyr Phe Cys Asp Ile Thr Gln Val Val Arg Ile Ala Cys Ala Asn Thr  
 180 185 190  
 Phe Pro Glu Glu Leu Val Met Ile Cys Ser Ser Gly Leu Ile Ser Val  
 195 200 205  
 Val Cys Leu Ile Ala Leu Leu Met Ser Tyr Ala Phe Leu Leu Ala Leu  
 210 215 220  
 Phe Lys Lys Leu Ser Gly Ser Gly Glu Asn Thr Asn Arg Ala Met Ser  
 225 230 235 240  
 Thr Cys Tyr Ser His Ile Thr Ile Val Val Leu Met Phe Gly Pro Ser  
 245 250 255  
 Ile Tyr Ile Tyr Ala Arg Pro Phe Asp Ser Phe Ser Leu Asp Lys Val  
 260 265 270  
 Val Ser Val Phe Asn Thr Leu Ile Phe Pro Leu Arg Asn Pro Ile Ile  
 275 280 285  
 Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Met Arg Lys Leu Val  
 290 295 300  
 Thr Lys Tyr Ile Leu Cys Lys Glu Lys  
 305 310

<210> 196  
 <211> 942  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
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 ccagaggtcc aactagtcct atttggtata tttctatcct tctatttggt catcctacca 120  
 ggaaatatcc ttatcatttg caccatcagt ctagaccctc atctgacctc tcctatgtat 180  
 ttctgttggt ctaatctggc cttccttgat atttggtact cttccattac agcccctgaa 240  
 atgctcatag acttctttgt ggagaggaag ataatttctt ttgatggatg cattgcacag 300  
 ctcttcttct tacactttgc tggggcttcg gagatgttct tgctcacagt gatggcctt 360  
 gacctctaca ctgctatctg ccgaccctc cactatgcta ccatcatgaa tcaacgtctc 420  
 tgctgtatcc tgggtggtct ctcctggagg gggggcttca ttcattctat catacagggtg 480  
 gctctcattg ttcgacttcc tttctgtggg cccaatgagt tagacagtta cttctgtgac 540  
 atcacacagg ttgtccggat tgctgtgcc aacaccttcc cagaggagtt agtgatgatc 600  
 tgtagtagtg gtctgatctc tgtggtgtgt ttgattgctc tgtaaatgct ctatgccttc 660

cttctggcct tgttcaagaa actttcaggc tcagggtgaga ataccaacag ggccatgtcc 720  
 acctgctatt cccacattac cattgtggtg ctaatgtttg ggccatccat ctacatttat 780  
 gctcgcccat ttgactcggtt ttccctagat aaagtgggtg ctgtgttcaa tactttaata 840  
 ttccctttac gtaatcccat tatttacaca ttgagaaaca aggaagtaaa ggcagccatg 900  
 aggaagttgg tcaccaaata tattttgtgt aaagagaagt ga 942

<210> 197  
 <211> 316  
 <212> PRT  
 <213> Homo sapiens

<400> 197  
 Met Glu Leu Trp Asn Phe Thr Leu Gly Ser Gly Phe Ile Leu Val Gly  
 1 5 10 15  
 Ile Leu Asn Asp Ser Gly Ser Pro Glu Leu Leu Cys Ala Thr Ile Thr  
 20 25 30  
 Ile Leu Tyr Leu Leu Ala Leu Ile Ser Asn Gly Leu Leu Leu Leu Ala  
 35 40 45  
 Ile Thr Met Glu Ala Arg Leu His Met Pro Met Tyr Leu Leu Leu Gly  
 50 55 60  
 Gln Leu Ser Leu Met Asp Leu Leu Phe Thr Ser Val Val Thr Pro Lys  
 65 70 75 80  
 Ala Leu Ala Asp Phe Leu Arg Arg Glu Asn Thr Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Ala Leu Gln Met Phe Leu Ala Leu Thr Met Gly Gly Ala Glu Asp  
 100 105 110  
 Leu Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 Pro Leu Thr Tyr Met Thr Leu Met Ser Ser Arg Ala Cys Trp Leu Met  
 130 135 140  
 Val Ala Thr Ser Trp Ile Leu Ala Ser Leu Ser Ala Leu Ile Tyr Thr  
 145 150 155 160  
 Val Tyr Thr Met His Tyr Pro Phe Cys Arg Ala Gln Glu Ile Arg His  
 165 170 175  
 Leu Leu Cys Glu Ile Pro His Leu Leu Lys Val Ala Cys Ala Asp Thr  
 180 185 190  
 Ser Arg Tyr Glu Leu Met Val Tyr Val Met Gly Val Thr Phe Leu Ile  
 195 200 205  
 Pro Ser Leu Ala Ala Ile Leu Ala Ser Tyr Thr Gln Ile Leu Leu Thr  
 210 215 220  
 Val Leu His Met Pro Ser Asn Glu Gly Arg Lys Lys Ala Leu Val Thr  
 225 230 235 240  
 Cys Ser Ser His Leu Thr Val Val Gly Met Phe Tyr Gly Ala Ala Thr  
 245 250 255

Phe Met Tyr Val Leu Pro Ser Ser Phe His Ser Thr Arg Gln Asp Asn  
 260 265 270

Ile Ile Ser Val Phe Tyr Thr Ile Val Thr Pro Ala Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Met Arg Ala Leu Arg Arg Val  
 290 295 300

Leu Gly Lys Tyr Met Leu Pro Ala His Ser Thr Leu  
 305 310 315

<210> 198  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
 atggagctct ggaacttcac cttgggaagt ggcttcattt tgggtggggat tctgaatgac 60  
 agtgggtctc ctgaactgct ctgtgctaca attacaatcc tatacttggt ggccctgac 120  
 agcaatggcc tactgtctct ggctatcacc atggaagccc ggctccacat gcccatgtac 180  
 ctctgcttg ggcagctctc tctcatggac ctctgttca catctgttg cactcccaag 240  
 gcccttgcg actttctgcg cagagaaaac accatctcct ttggaggctg tgcccttcag 300  
 atgttcctgg cactgacaat ggggtgggtgct gaggacctcc tactggcctt catggcctat 360  
 gacaggtatg tggccatttg tcatctctg acatacatga ccctcatgag ctcaagagcc 420  
 tgctggctca tgggtggccac gtcttgatc ctggcatccc taagtgcctt aatatatacc 480  
 gtgtatacca tgcactatcc cttctgcagg gccaggaga tcaggcatct tctctgtgag 540  
 atccacact tgctgaagggt ggctgtgct gatacctcca gatatgagct catggtatat 600  
 gtgatgggtg tgaccttctt gattccctct cttgctgcta tactggcctc ctatacacia 660  
 attctactca ctgtgtctca tatgccatca aatgagggga ggaagaaagc cctgtgcacc 720  
 tgctcttccc acctgactgt ggttgggatg ttctatggag ctgccacatt catgtatgtc 780  
 ttgccagtt ccttccacag caccagacaa gacaacatca tctctgtttt ctacacaatt 840  
 gtactccag ccttgaatcc actcatctac agcctgagga ataaggaggt catgcggggc 900  
 ttgaggaggg tcttgggaaa atacatgctg ccagcacact ccacgctcta g 951

<210> 199  
 <211> 330  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Cys Ser Phe Phe Leu Cys Gln Thr Gly Lys Gln Ala Lys Ile Ser  
 1 5 10 15  
 Met Gly Glu Glu Asn Gln Thr Phe Val Ser Lys Phe Ile Phe Leu Gly  
 20 25 30  
 Leu Ser Gln Asp Leu Gln Thr Gln Ile Leu Leu Phe Ile Leu Phe Leu  
 35 40 45  
 Ile Ile Tyr Leu Leu Thr Val Leu Gly Asn Gln Leu Ile Ile Ile Leu  
 50 55 60  
 Ile Phe Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
 65 70 75 80  
 Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Thr Ser Ile Val Pro Gln  
 85 90 95

Val Leu Val His Phe Leu Val Lys Arg Lys Thr Ile Ser Phe Tyr Gly  
 100 105 110  
 Cys Met Thr Gln Ile Ile Val Phe Leu Leu Val Gly Cys Thr Glu Cys  
 115 120 125  
 Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Lys  
 130 135 140  
 Pro Leu Tyr Tyr Ser Thr Ile Met Thr Gln Arg Val Cys Leu Trp Leu  
 145 150 155 160  
 Ser Phe Arg Ser Trp Ala Ser Gly Ala Leu Val Ser Leu Val Asp Thr  
 165 170 175  
 Ser Phe Thr Phe His Leu Pro Tyr Trp Gly Gln Asn Ile Ile Asn His  
 180 185 190  
 Tyr Phe Cys Glu Pro Pro Ala Leu Leu Lys Leu Ala Ser Ile Asp Thr  
 195 200 205  
 Tyr Ser Thr Glu Met Ala Ile Phe Ser Met Gly Val Val Ile Leu Leu  
 210 215 220  
 Ala Pro Val Ser Leu Ile Leu Gly Ser Tyr Trp Asn Ile Ile Ser Thr  
 225 230 235 240  
 Val Ile Gln Met Gln Ser Gly Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 245 250 255  
 Cys Gly Ser His Leu Ile Val Val Val Leu Phe Tyr Gly Ser Gly Ile  
 260 265 270  
 Phe Thr Tyr Met Arg Pro Asn Ser Lys Thr Thr Lys Glu Leu Asp Lys  
 275 280 285  
 Met Ile Ser Val Phe Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Ile  
 290 295 300  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Arg Lys Leu  
 305 310 315 320  
 Val Gly Arg Lys Cys Phe Ser His Arg Gln  
 325 330

<210> 200

<211> 993

<212> DNA

<213> Homo sapiens

<400> 200

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 aaccaaacct ttgtgtccaa gtttatcttc ctgggtcttt cacaggactt gcagaccag 120  
 atcctgctat ttatcctttt cctcatcatt tatctgctga ccgtgcttgg aaaccagctc 180  
 atcatcattc tcatcttcct ggattctcgc cttcacactc ccatgtattt ttttcttaga 240  
 aatctctcct ttgcagatct ctgtttctct actagcattg tccctcaagt gttgggtcac 300  
 ttcttggtta agaggaaaac catttctttt tatgggtgta tgacacagat aattgtcttt 360  
 cttctgggtg ggtgtacaga gtgtgcgctg ctggcagtga tgcctatga ccggtatgtg 420  
 gctgtctgca agcccctgta ctactctacc atcatgacac aacgggtgtg tctctggctg 480  
 tccttcaggt cctgggccag tggggcacta gtgtctttag tagataccag ctttactttc 540



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catcttccct actggggaca gaatataatc aatcactact tttgtgaacc tcctgccctc 600
ctgaagctgg cttccataga cacttacagc acagaaatgg ccatcttttc aatgggcgctg 660
gtaatcctcc tggcccctgt ctccctgatt cttgggttctt attggaatat tatctccact 720
gttatccaga tgcagtctgg ggaagggaga ctcaaggctt tttccacctg tggctcccat 780
cttattgttg ttgtcctctt ctatgggtca ggaatattca cctacatgcg accaaactcc 840
aagactacaa aagaactgga taaaatgata tctgtgttct atacagcggg gactccaatg 900
ttgaacccca taatttatag cttgaggaac aaagatgtca aaggggctct caggaaacta 960
gttgggagaa agtgcttctc tcataggcag tga 993

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<210> 201
<211> 317
<212> PRT
<213> Homo sapiens

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<400> 201
Met Leu Arg Asn Gly Ser Ile Val Thr Glu Phe Ile Leu Val Gly Phe
 1             5             10             15

Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu
      20             25             30

Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile
      35             40             45

Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu
      50             55             60

Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro
      65             70             75             80

Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val
      85             90             95

Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu
      100            105            110

Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
      115            120            125

Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg
      130            135            140

Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu
      145            150            155            160

Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu
      165            170            175

Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp
      180            185            190

Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile
      195            200            205

Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala
      210            215            220

Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser
      225            230            235            240

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Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala  
 245 250 255

Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp  
 260 265 270

Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro  
 275 280 285

Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg  
 290 295 300

Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val  
 305 310 315

<210> 202  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 202  
 atgctaagga atggcagcat agtgacggaa tttatcctcg tgggctttca gcagagctcc 60  
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 atgaatggcc tcatcatctt tatcacctcc tggacagacc ccaagctcaa cagcccatg 180  
 tacttcttcc tcggccatct gtctctcctg gatgtctgct tcatcaccac taccatccca 240  
 cagatgttga tccacctcgt ggtcagggac cacattgtct cctttgtatg ttgcatgacc 300  
 cagatgtact ttgtcttctg tgttggtgtg gccgagtga tctcttggc ttcatggcc 360  
 tatgaccgtt atgttgctat ctgctaccca cttaactatg tcccgatcat aagccagaag 420  
 gtctgtgtca ggcttggtgg aactgcctgg ttctttgggc tgatcaatgg catctttctc 480  
 gagtatattt cattccgaga gcccttccgc agagacaacc acatagaaag cttcttctgt 540  
 gaggcccca tagtgattgg cctctcttgt ggggaccctc agtttagtct gtgggcaatc 600  
 tttgccgatg ccatcgtggt aattctcagc cccatggtgc tcatgtcac ttctatgtg 660  
 cacatcctgg ccaccatcct cagcaaagcc tctctctcag gtcgggggaa gactttctct 720  
 acttggtgct ctcacctgac tgtggtcatc tttctctaca cttcagctat gttctcttac 780  
 atgaaccccc acagcacaca tgggcctgac aaagacaaac ctttctccct cctgtacacc 840  
 atcattaccc ccatgtgcaa ccccatcatt tatagtttcc gcaacaagga aattaaggag 900  
 gccatggtga gggcacttgg aagaaccagg ctggcccagc cacagtctgt ctag 954

<210> 203  
 <211> 316  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Lys Ile Ala Asn Asn Thr Val Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Leu Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Ile Leu  
 20 25 30  
 Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
 35 40 45  
 Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly  
 50 55 60  
 Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg  
 65 70 75 80

Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Gly  
85 90 95

Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly  
100 105 110

Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg  
115 120 125

Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met  
130 135 140

Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val  
145 150 155 160

Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn  
165 170 175

Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met  
180 185 190

Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu  
195 200 205

Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His  
210 215 220

Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys  
225 230 235 240

Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe  
245 250 255

Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser  
260 265 270

Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr  
275 280 285

Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg  
290 295 300

His Val Val Cys Gln Val Asp Phe Ile Ile Arg Asn  
305 310 315

<210> 204

<211> 951

<212> DNA

<213> Homo sapiens

<400> 204

atgaagatag caaacaacac agtagtgaca gaatttatcc tccttggtct gactcagtct 60  
caagatatcc agctcttggt ctttgtgctg atcttaattt tctaccttat catcctccct 120  
ggaaattttc tcattatttt caccataagg tcagaccctg ggctcacagc cccctctat 180  
ttatttctgg gcaacttggc cttcctggat gcacacctact ccttcattgt ggctcccagg 240  
atgttggtgg acttcctctc tgagaaaaag gtaatctcct acagaggctg catcactcag 300  
ctctttttct tgcacttctc tggaggaggg gagggattac tccttggtgt gatggccttt 360  
gaccgctaca tcgcatctg ccggcctctg cactgttcaa ctgtcatgaa ccctagagcc 420  
tgctatgcaa tgatgttggc tctgtggctt ggggggtttt tccactccat tatccaggtg 480  
gtcctcatcc tccgcttgcc tttttgtggc ccaaaccagc tggacaactt cttctgtgat 540

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gtccgacagg tcatcaagct ggcttgcacc gacatgtttg tgggtggagct tctaattggtc 600
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atcctctgcc atgttcgtag ggcagcttct gaagggaaga acaaggccat gtccacgtgc 720
accactcgtg tcattattat acttcttatg tttggacctg ctatcttcat ctacatgtgc 780
cctttcaggg ccttaccagc tgacaagatg gtttctctct ttcacacagt gatctttcca 840
ttgatgaatc ctatgattta tacccttcgc aaccaggaag tgaaaacttc catgaagagg 900
ttattgagtc gacatgtagt ctgtcaagtg gattttataa taagaaactg a 951

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<210> 205

<211> 338

<212> PRT

<213> Homo sapiens

<400> 205

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Met Cys Tyr Ile Tyr Leu Ile Phe Lys Glu Trp Thr Leu Ile Phe Tyr
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Phe Ser Leu Leu Leu Phe Leu Gln Ile Thr Pro Ala Ile Met Ala Asn
      20             25             30

Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser Thr Asn Lys
      35             40             45

Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile Tyr Leu Cys
      50             55             60

Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr Leu Asp His
      65             70             75             80

His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu Ser Phe Leu
      85             90             95

Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile Ala Asn Ser
      100            105            110

Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val Ser Gln Val
      115            120            125

Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu Leu Thr Val
      130            135            140

Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu His Tyr Asp
      145            150            155            160

Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr Val Ser Trp
      165            170            175

Leu Tyr Gly Gly Leu Ile Ala Val Met His Thr Ala Gly Thr Phe Ser
      180            185            190

Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe Cys Asp Ile
      195            200            205

Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile Arg Glu Ile
      210            215            220

Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys Phe Ile Val
      225            230            235            240

Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys Lys Ile Pro

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Gly Ala Gly Phe Leu Ser Cys Cys Tyr Trp His Thr Cys Ser Pro Ser  
 50 55 60  
 Val Val Thr Cys Ser Ser Ser Gln Ser Ser Asp Trp Met Gln Leu Cys  
 65 70 75 80  
 Thr His Leu Cys Thr Thr Leu Ser Val Phe Phe Pro Ser Trp Ser Cys  
 85 90 95  
 Gly Ile Gln Leu Pro Leu Ser Leu Arg Cys Cys Leu Ile Phe Ser Val  
 100 105 110  
 Arg Arg Lys Pro Phe Leu Leu Gln Asp Ala Ser Phe Arg Pro Thr Ser  
 115 120 125  
 Ser Thr Pro Trp Gly Ala Cys Glu Cys Tyr Leu Leu Thr Ala Met Ala  
 130 135 140  
 Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Ile Ile  
 145 150 155 160  
 Met Thr Thr Thr Leu Cys Ala Lys Met Ala Ala Ala Cys Trp Thr Cys  
 165 170 175  
 Gly Phe Leu Cys Pro Ile Ser Glu Val Ile Leu Ala Ser Gln Leu Pro  
 180 185 190  
 Phe Cys Ala Tyr Asn Glu Ile Gln His Ile Phe Cys Asp Phe Pro Pro  
 195 200 205  
 Leu Leu Ser Leu Ala Cys Lys Asp Thr Ser Ala Asn Ile Leu Val Asp  
 210 215 220  
 Phe Ala Ile Asn Ala Phe Ile Ile Leu Ile Thr Phe Phe Phe Ile Met  
 225 230 235 240  
 Ile Ser Tyr Ala Arg Ile Ile Gly Ala Val Leu Lys Ile Lys Thr Ala  
 245 250 255  
 Ser Gly Arg Lys Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ala Val  
 260 265 270  
 Val Leu Ile Phe Phe Gly Ser Ile Ile Phe Met Tyr Val Arg Leu Lys  
 275 280 285  
 Lys Ser Tyr Ser Leu Thr Leu Asp Arg Thr Leu Ala Ile Val Tyr Ser  
 290 295 300  
 Val Leu Thr Pro Met Val Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys  
 305 310 315 320  
 Glu Ile Ile Lys Ala Ile Lys Arg Thr Ile Phe Gln Lys Gly Asp Lys  
 325 330 335  
 Ala Ser Leu Ala His Leu  
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<210> 208  
 <211> 1053  
 <212> DNA

<213> Homo sapiens

<400> 208

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tccttcctcc ttgtgggtat cccaggactg caatcttcac atctttggct ggctatctca 180
ctgagtgcc tgtacatcat agccctgtta ggaaacacca tcatcgtgac tgcaatctgg 240
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attgttatgg cctcctcggg ggtacccaag atggtgagca tcttctgctc aggagacagc 360
tcaatcagct ttagtgcttg tttcactcag atgttttttg tccacttagc cacagctgtg 420
gagacggggc tgctgctgac catggctttt gaccgctatg tagccatctg caagcctcta 480
cactacaaga gaattctcac gcctcaagtg atgctgggaa tgagtatggc catcaccatc 540
agagctatca tagccataac tccactgagt tggatgggtga gtcactacc tttctgtggc 600
tccaatgtgg ttgtccactc ctactgtgag cacatagctt tggccagggt agcatgtgct 660
gaccccgctg ccagcagctc ctacagtctg attgggttct ctcttatggg gggctctgat 720
gtggccttca ttgctgcctc ctatatctta attctcaagg cagtatttgg tctctcctca 780
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gtcctctttg accattccaa cctgggttca tga 1053
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<210> 209

<211> 309

<212> PRT

<213> Homo sapiens

<400> 209

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Met Glu Arg Ile Asn His Thr Ser Ser Val Ser Glu Phe Ile Leu Leu
  1             5             10             15

Gly Leu Ser Ser Arg Pro Glu Asp Gln Lys Thr Leu Phe Val Leu Phe
      20             25             30

Leu Ile Val Tyr Leu Val Thr Ile Thr Gly Asn Leu Leu Ile Ile Leu
      35             40             45

Ala Ile Arg Phe Asn Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu
      50             55             60

Ser Phe Leu Ser Leu Thr Asp Ile Cys Phe Thr Thr Ser Val Val Pro
      65             70             75             80

Lys Met Leu Met Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala
      85             90             95

Gly Cys Leu Thr Gln Met Tyr Phe Leu Tyr Ala Leu Gly Asn Ser Asp
      100            105            110

Ser Cys Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys
      115            120            125

Asp Pro Phe His Tyr Val Thr Thr Met Ser His His His Cys Val Leu
      130            135            140

Leu Val Ala Phe Ser Cys Ser Phe Pro His Leu His Ser Leu Leu His
      145            150            155            160

Thr Leu Leu Leu Asn Arg Leu Thr Phe Cys Asp Ser Asn Val Ile His
      165            170            175
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<400> 211
Met Glu Gly Phe Tyr Leu Arg Arg Ser His Glu Leu Gln Gly Met Gly
  1             5             10             15
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Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu Leu Leu  
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 Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly Ile Phe  
 35 40 45  
 Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile Ile Leu  
 50 55 60  
 Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu  
 65 70 75 80  
 Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser Ile Pro  
 85 90 95  
 Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser Tyr Ser  
 100 105 110  
 Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly Leu Asp  
 115 120 125  
 Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
 130 135 140  
 Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys Ala Leu  
 145 150 155 160  
 Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu Met His  
 165 170 175  
 Thr Leu Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala Ile Pro  
 180 185 190  
 His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys Ser Asp  
 195 200 205  
 Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu Phe Leu  
 210 215 220  
 Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile Phe Trp  
 225 230 235 240  
 Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala Phe Ser  
 245 250 255  
 Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly Ser Leu  
 260 265 270  
 Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu Arg Glu  
 275 280 285  
 Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu Asn Pro  
 290 295 300  
 Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu Gly Lys  
 305 310 315 320  
 Leu Phe Val Ser Gly Lys Thr Phe Phe Leu  
 325 330

<210> 212  
 <211> 993  
 <212> DNA  
 <213> Homo sapiens

<400> 212  
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 cagcctcttc tgtttggcat cttccttggc atgtacctgg tcaccatggg ggggaacctg 180  
 ctcattatcc tggccatcag ctctgaccca cacctccata ctcccatgta cttctttctg 240  
 gccaacctgt cattaactga tgcctgtttc acttctgcct ccatcccca aatgctggcc 300  
 aacattcata cccagagtca gatcatctcg tattctgggt gtcttgacac gctatatttc 360  
 ctcccttatgt ttggtggcct tgacaactgc ctgctggctg tgatggcata tgaccgctat 420  
 gtggccatct gccaaccaact ccattacagc acatctatga gtcccagct ctgtgcacta 480  
 atgctgggtg tgtgctgggt gctaaccaac tgtcctgccc tgatgcacac actggtgctg 540  
 acccgctgg ctttctgtgc ccagaaagcc atccctcatt tctattgtga tcctagtgtc 600  
 ctccctgaagc ttgctgtctc agatacccat gtaaacgagc tgatgatcat caccatgggc 660  
 ttgctgttcc tcaactgttc cctcctgctg atcgtcttct cctatgtccg cattttctgg 720  
 gctgtgtttg tcatctcatc tcctggaggg agatggaagg ccttctctac ctgtggttct 780  
 catctcacgg tggttctgct cttctatggg tctcttatgg gtgtgtattt acttcctcca 840  
 tcaacttact ctacagagag ggaaagtagg gctgctgttc tctatatggg gattattccc 900  
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 cttttgtca gtggaaaaac attcttttta tga 993

<210> 213  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 213  
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 Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser  
 20 25 30  
 Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr  
 35 40 45  
 Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60  
 Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys  
 65 70 75 80  
 Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met  
 100 105 110  
 Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125  
 Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe  
 130 135 140  
 Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu  
 145 150 155 160

Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser  
165 170 175

Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr  
180 185 190

Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
195 200 205

Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr  
210 215 220

Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu  
225 230 235 240

Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe  
245 250 255

Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala  
260 265 270

Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr  
275 280 285

Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln  
290 295 300

Phe Val Asn Tyr Ser Lys Ile Phe  
305 310

<210> 214

<211> 939

<212> DNA

<213> Homo sapiens

<400> 214

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cggaagatcc	agctcctcct	cttcctcttt	ttctcagtgt	tctatgtatc	aagcctgatg	120
ggaaatctcc	tcattgtgct	aactgtgacc	tctgaccctc	gtttacagtc	ccccatgtac	180
ttcctgctgg	ccaacctttc	catcatcaat	ttggtatttt	gttcctccac	agctcccaag	240
atgatttatg	accttttcag	gaagcacaag	accatctctt	ttgggggctg	tgtagttcag	300
atcttcttta	tccatgcagt	tgggggaact	gagatgggtg	tgctcatagc	catggctttt	360
gaccgatatg	tggccatatg	taagcctctc	cactacctga	ccatcatgaa	cccacaaagg	420
tgcattttgt	ttttagtcac	ttcctggatt	ataggtatta	ttcactcagt	gattcagttg	480
gcttttggtg	tagacctgct	gttctgtggc	cctaataaat	tagatagttt	cttttgtgat	540
cttcctcgat	ttatcaaact	ggcttgcata	gagacctaca	cattgggatt	catggttact	600
gccaatagtg	gatttatttc	tctggcttct	tttttaattc	tcataatctc	ttacatcttt	660
attttggtga	ctggttcagaa	aaaatcttca	ggtggtatat	tcaaggcttt	ctctatgctg	720
tcagctcatg	tcattgtggg	ggttttgggt	tttgggccat	taatcttttt	ctatattttt	780
ccatttccca	catcacatct	tgataaattc	cttgccatct	ttgatgcagt	tactactccc	840
gttttgaatc	cagtcaccta	tacttttaga	aataaagaga	tgatggtggc	aatgagaaga	900
cgatgctctc	agtttgtgaa	ttacagtaaa	atcttttaa			939

<210> 215

<211> 357

<212> PRT

<213> Homo sapiens

<400> 215

Met	Asn	Asn	Thr	Ile	Val	Phe	Val	Ile	Lys	Ile	Gln	Ile	Glu	Lys	Ser	
1				5					10					15		
Asp	Leu	Lys	Tyr	Arg	Ala	Ile	Ser	Leu	Gln	Glu	Ile	Ser	Lys	Ile	Ser	
		20						25					30			
Leu	Leu	Phe	Trp	Val	Leu	Leu	Leu	Val	Ile	Ser	Arg	Leu	Leu	Leu	Ala	
		35						40					45			
Met	Thr	Leu	Gly	Asn	Ser	Thr	Glu	Val	Thr	Glu	Phe	Tyr	Leu	Leu	Gly	
	50					55					60					
Phe	Gly	Ala	Gln	His	Glu	Phe	Trp	Cys	Ile	Leu	Phe	Ile	Val	Phe	Leu	
65					70					75					80	
Leu	Ile	Tyr	Val	Thr	Ser	Ile	Met	Gly	Asn	Ser	Gly	Ile	Ile	Leu	Leu	
				85					90					95		
Ile	Asn	Thr	Asp	Ser	Arg	Phe	Gln	Thr	Leu	Thr	Tyr	Phe	Phe	Leu	Gln	
			100					105					110			
His	Leu	Ala	Phe	Val	Asp	Ile	Cys	Tyr	Thr	Ser	Ala	Ile	Thr	Pro	Lys	
		115					120						125			
Met	Leu	Gln	Ser	Phe	Thr	Glu	Glu	Lys	Asn	Leu	Ile	Leu	Phe	Gln	Gly	
	130					135					140					
Cys	Val	Ile	Gln	Phe	Leu	Val	Tyr	Ala	Thr	Phe	Ala	Thr	Ser	Asp	Cys	
145					150					155					160	
Tyr	Leu	Leu	Ala	Met	Met	Ala	Val	Asp	Pro	Tyr	Val	Ala	Ile	Cys	Lys	
				165				170						175		
Pro	Leu	His	Tyr	Thr	Val	Ile	Met	Ser	Arg	Thr	Val	Cys	Ile	Arg	Leu	
		180						185					190			
Val	Ala	Gly	Ser	Tyr	Ile	Met	Gly	Ser	Ile	Asn	Ala	Ser	Val	Gln	Thr	
		195					200						205			
Gly	Phe	Thr	Cys	Ser	Leu	Ser	Phe	Cys	Lys	Ser	Asn	Ser	Ile	Asn	His	
	210					215					220					
Phe	Phe	Cys	Asp	Val	Pro	Pro	Ile	Leu	Ala	Leu	Ser	Cys	Ser	Asn	Val	
225					230					235					240	
Asp	Ile	Asn	Ile	Met	Leu	Leu	Val	Val	Phe	Val	Gly	Ser	Asn	Leu	Ile	
				245					250					255		
Phe	Thr	Gly	Leu	Val	Val	Ile	Phe	Ser	Tyr	Ile	Tyr	Ile	Met	Ala	Thr	
		260					265						270			
Ile	Leu	Lys	Met	Ser	Ser	Ser	Ala	Gly	Arg	Lys	Lys	Ser	Phe	Ser	Thr	
		275					280					285				
Cys	Ala	Ser	His	Leu	Thr	Ala	Val	Thr	Ile	Phe	Tyr	Gly	Thr	Leu	Ser	
	290					295					300					
Tyr	Met	Tyr	Leu	Gln	Ser	His	Ser	Asn	Asn	Ser	Gln	Glu	Asn	Met	Lys	
305					310					315					320	

Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu  
325 330 335

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile  
340 345 350

Gly Lys Lys Leu Phe  
355

<210> 216  
<211> 1074  
<212> DNA  
<213> Homo sapiens

<400> 216  
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gtcatttcta gacttttact agccatgaca ctaggaaaca gcactgaagt cactgaattc 180  
tatcttctgg gatttggtgc ccagcatgag ttttggtgta tcctcttcat tgtattcctt 240  
ctcatctatg tgacctccat aatgggtaat agtgggaataa tottactcat caacacagat 300  
tccagatttc aaacactcac gtactttttt ctacaacatt tggcttttgt tgatatctgt 360  
tacacttctg ctatcactcc caagatgctc caaagcttca cagaagaaaa gaatttgata 420  
ttatttcagg gctgtgtgat acaattctta gtttatgcaa catttgcaac cagtgactgt 480  
tatctcctgg ctatgatggc agtggatcct tatgttgcca tctgtaagcc ccttcactat 540  
actgtaatca tgtcccgaac agtctgcac cgtttggtag ctgggttcata catcatgggc 600  
tcaataaatg cctctgtaca aacagggtttt acatgttcac tgtccttctg caagtccaat 660  
agcatcaatc actttttctg tgatgttccc cctattcttg ctctttcatg ctccaatgtt 720  
gacatcaaca tcatgtact tgttgtcttt gtgggatcta acttgatatt cactgggttg 780  
gtcgtcatct tttctacat ctacatcatg gccaccatcc tgaaaatgtc ttctagtga 840  
ggaaggaaaa aatccttctc aacatgtgct tcccacctga ccgcagtcac cattttctat 900  
gggacactct cttacatgta tttgcagtct cattctaata attcccagga aaatatgaaa 960  
gtggccttta tattttatgg cacagttatt cccatgttaa atcctttaat ctatagcttg 1020  
agaaataagg aagtaaaaga agctttaaaa gtgataggga aaaagttatt ttaa 1074

<210> 217  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 217  
Met Asn His Met Ser Ala Ser Leu Lys Ile Ser Asn Ser Ser Lys Phe  
1 5 10 15

Gln Val Ser Glu Phe Ile Leu Leu Gly Phe Pro Gly Ile His Ser Trp  
20 25 30

Gln His Trp Leu Ser Leu Pro Leu Ala Leu Leu Tyr Leu Ser Ala Leu  
35 40 45

Ala Ala Asn Thr Leu Ile Leu Ile Ile Ile Trp Gln Asn Pro Ser Leu  
50 55 60

Gln Gln Pro Met Tyr Ile Phe Leu Gly Ile Leu Cys Met Val Asp Met  
65 70 75 80

Gly Leu Ala Thr Thr Ile Ile Pro Lys Ile Leu Ala Ile Phe Trp Phe  
85 90 95

Asp Ala Lys Val Ile Ser Leu Pro Glu Cys Phe Ala Gln Ile Tyr Ala

100	105	110
Ile His Phe Phe Val Gly Met Glu Ser Gly Ile Leu Leu Cys Met Ala		
115	120	125
Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile		
130	135	140
Val Thr Ser Ser Leu Ile Leu Lys Ala Thr Leu Phe Met Val Leu Arg		
145	150	155
Asn Gly Leu Phe Val Thr Pro Val Pro Val Leu Ala Ala Gln Arg Asp		
165	170	175
Tyr Cys Ser Lys Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly		
180	185	190
Val Thr Ser Leu Ala Cys Asp Asp Arg Arg Pro Asn Ser Ile Cys Gln		
195	200	205
Leu Val Leu Ala Trp Leu Gly Met Gly Ser Asp Leu Ser Leu Ile Ile		
210	215	220
Leu Ser Tyr Ile Leu Ile Leu Tyr Ser Val Leu Arg Leu Asn Ser Ala		
225	230	235
Glu Ala Ala Ala Lys Ala Leu Ser Thr Cys Ser Ser His Leu Thr Leu		
245	250	255
Ile Leu Phe Phe Tyr Thr Ile Val Val Val Ile Ser Val Thr His Leu		
260	265	270
Thr Glu Met Lys Ala Thr Leu Ile Pro Val Leu Leu Asn Val Leu His		
275	280	285
Asn Ile Ile Pro Pro Ser Leu Asn Pro Thr Val Tyr Ala Leu Gln Thr		
290	295	300
Lys Glu Leu Arg Ala Ala Phe Gln Lys Val Leu Phe Ala Leu Thr Lys		
305	310	315
Glu Ile Arg Ser		

<210> 218  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 218  
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 gcactactgt atctctcagc acttgctgca aacaccctca tctcatcat catctggcag 180  
 aacccttctt tacagcagcc catgtatatt ttccttggca tctctgtgat ggtagacatg 240  
 ggtctggcca ctactatcat ccctaagatc ctggccatct tctggtttga tgccaagggt 300  
 attagcctcc ctgagtgett tgetcagatt tatgccattc acttctttgt gggcatggag 360  
 tctggtatcc tactctgcat ggcttttgat agatatgtgg ctatttgtca ccctcttcgc 420  
 tatccatcaa ttgtcaccag ttccttaate ttaaaagcta ccctgttcat ggtgctgaga 480  
 aatggcttat ttgtcactcc agtgccctgtg cttgcagcac agcgtgatta ttgctccaag 540  
 aatgaaattg aacactgcct gtgctctaac cttgggggtca caagcctggc ttgtgatgac 600

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aggaggccaa acagcatttg ccagttgggtt ctggcatggc ttggaatggg gagtgatcta 660
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gaagctgcag ccaaggccct gagcacttgt agttcacatc tcaccctcat ccttttcttt 780
tacactattg ttgtagtgat ttcagtgact catctgacag agatgaaggc tactttgatt 840
ccagttctac ttaatgtgtt gcacaacatc atccccctt ccctcaacc tacagtttat 900
gcacttcaga ccaaagaact tagggcagcc ttccaaaagg tgctgtttgc ccttacaaaa 960
gaaataagat cttag 975

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<210> 219  
 <211> 324  
 <212> PRT  
 <213> Homo sapiens

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<400> 219
Met Pro Leu Phe Asn Ser Leu Cys Trp Phe Pro Thr Ile His Val Thr
  1             5             10             15

Pro Pro Ser Phe Ile Leu Asn Gly Ile Pro Gly Leu Glu Arg Val His
      20             25             30

Val Trp Ile Ser Leu Pro Leu Cys Thr Met Tyr Ile Ile Phe Leu Val
    35             40             45

Gly Asn Leu Gly Leu Val Tyr Leu Ile Tyr Tyr Glu Glu Ser Leu His
    50             55             60

His Pro Met Tyr Phe Phe Phe Gly His Ala Leu Ser Leu Ile Asp Leu
    65             70             75             80

Leu Thr Cys Thr Thr Thr Leu Pro Asn Ala Leu Cys Ile Phe Trp Phe
      85             90             95

Ser Leu Lys Glu Ile Asn Phe Asn Ala Cys Leu Ala Gln Met Phe Phe
    100             105             110

Val His Gly Phe Thr Gly Val Glu Ser Gly Val Leu Met Leu Met Ala
    115             120             125

Leu Asp Arg Tyr Ile Ala Ile Cys Tyr Pro Leu Arg Tyr Ala Thr Thr
    130             135             140

Leu Thr Asn Pro Ile Ile Ala Lys Ala Glu Leu Ala Thr Phe Leu Arg
    145             150             155             160

Gly Val Leu Leu Met Ile Pro Phe Pro Phe Leu Val Lys Arg Leu Pro
      165             170             175

Phe Cys Gln Ser Asn Ile Ile Ser His Thr Tyr Cys Asp His Met Ser
    180             185             190

Val Val Lys Leu Ser Cys Ala Ser Ile Lys Val Asn Val Ile Tyr Gly
    195             200             205

Leu Met Val Ala Leu Leu Ile Gly Val Phe Asp Ile Cys Cys Ile Ser
    210             215             220

Leu Ser Tyr Thr Leu Ile Leu Lys Ala Ala Ile Ser Leu Ser Ser Ser
    225             230             235             240

Asp Ala Arg Gln Lys Ala Phe Ser Thr Cys Thr Ala His Ile Ser Ala

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	245		250		255
Ile Ile Ile Thr Tyr Val Pro Ala Phe Phe Thr Phe Phe Ala His Arg					
	260		265		270
Phe Gly Gly His Thr Ile Pro Pro Ser Leu His Ile Ile Val Ala Asn					
	275		280		285
Leu Tyr Leu Leu Leu Pro Pro Thr Leu Asn Pro Ile Val Tyr Gly Val					
	290		295		300
Lys Thr Lys Gln Ile Arg Lys Ser Val Ile Lys Phe Phe Gln Gly Asp					
	305		310		315
					320
Lys Gly Ala Gly					

<210> 220  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
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 acaatgtaca tcatcttctt tgtggggaat cttgggtctg tgtacctcat ttattatgag 180  
 gagtccttac atcatccgat gtattttttt tttggccatg ctctctccct cattgacctc 240  
 cttacctgca ccaccactct acccaatgca ctctgcatct tctggttcag tctcaaagaa 300  
 attaacttca atgcttgctt ggcccagatg ttctttgttc atgggttcac aggtgtggag 360  
 tctgggggtgc tcatgtctat ggctctagac cgctatatag ccatttgcta ccctttgcgt 420  
 tatgctacca cactcaccaa ccctatcatt gccaaaggctg agcttgccac cttcctgagg 480  
 ggtgtattgc tgatgattcc tttcccattc ttgggttaagc gtttgccctt ctgcccaggc 540  
 aatattatct ccatacgta ctgcgaccac atgtctgtag taaagctatc ttgtgccagc 600  
 atcaaggctca atgtaatcta tgggtctaagc gttgctctcc tgattggagt gtttgacatt 660  
 tgttgatatat ctttgtctta cactttgatc ctcaaggcag cgatcagcct ctcttcacat 720  
 gatgctcggc agaaggcttt cagcacctgc actgcccata tatctgccat catcatcacc 780  
 tatgttccag cattcttcac tttctttgcc caccgttttg ggggacacac aattccccct 840  
 tctcttcaca tcattgtggc taatctttat cttcttcttc cccaactct aaacctatt 900  
 gtttatggag taaagacaaa acagatacgc aagagtgtca taaagttctt ccagggtgat 960  
 aagggtgcag gttga 975

<210> 221  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Gln Pro Tyr Thr Lys Asn Trp Thr Gln Val Thr Glu Phe Val Met  
 1 5 10 15  
 Met Gly Phe Ala Gly Ile His Glu Ala His Leu Leu Phe Phe Ile Leu  
 20 25 30  
 Phe Leu Thr Met Tyr Leu Phe Thr Leu Val Glu Asn Leu Ala Ile Ile  
 35 40 45  
 Leu Val Val Gly Leu Asp His Arg Leu Arg Arg Pro Met Tyr Phe Phe  
 50 55 60



Leu Thr His Leu Ser Cys Leu Glu Ile Trp Tyr Thr Ser Val Thr Val  
 65 70 75 80  
 Pro Lys Met Leu Ala Gly Phe Ile Gly Val Asp Gly Gly Lys Asn Ile  
 85 90 95  
 Ser Tyr Ala Gly Cys Leu Ser Gln Leu Phe Ile Phe Thr Phe Leu Gly  
 100 105 110  
 Ala Thr Glu Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val  
 115 120 125  
 Ala Ile Cys Met Pro Leu His Tyr Gly Ala Phe Val Ser Trp Gly Thr  
 130 135 140  
 Cys Ile Arg Leu Ala Ala Ala Cys Trp Leu Val Gly Phe Leu Thr Pro  
 145 150 155 160  
 Ile Leu Pro Ile Tyr Leu Leu Ser Gln Leu Thr Phe Cys Gly Pro Asn  
 165 170 175  
 Val Ile Asp His Phe Ser Cys Asp Ala Ser Pro Leu Leu Ala Leu Ser  
 180 185 190  
 Cys Ser Asp Val Thr Trp Lys Glu Thr Val Asp Phe Leu Val Ser Leu  
 195 200 205  
 Ala Val Leu Leu Ala Ser Ser Met Val Ile Ala Val Ser Tyr Gly Asn  
 210 215 220  
 Ile Val Trp Thr Leu Leu His Ile Arg Ser Ala Ala Glu Arg Trp Lys  
 225 230 235 240  
 Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ser Leu Phe Tyr  
 245 250 255  
 Gly Thr Leu Phe Phe Met Tyr Val Gln Thr Lys Val Thr Ser Ser Ile  
 260 265 270  
 Asn Phe Asn Lys Val Val Ser Val Phe Tyr Ser Val Val Thr Pro Met  
 275 280 285  
 Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Gly Ala  
 290 295 300  
 Leu Gly Arg Val Phe Ser Leu Asn Phe Trp Lys Gly Gln  
 305 310 315

<210> 222

<211> 954

<212> DNA

<213> Homo sapiens

<400> 222

atgcaaccat ataccaaaaa ctggaccacg gtaactgaat ttgtcatgat gggctttgct 60  
 ggcattccatg aagcacacct cctcttcttc atactcttcc tcaccatgta cctgttcacc 120  
 ttggtggaga atttggccat catttttagtg gtgggtttgg accaccgact acggagaccc 180  
 atgtatttct tcctgacaca cttgtcctgc cttgaaatct ggtacacttc tgttacagtg 240  
 cccaagatgc tggctgggtt tattggggtg gatgggtggca agaatatctc ttatgctggt 300  
 tgcctatccc agctcttcat cttcaccttt cttggggcaa ctgagtgttt cctactggct 360

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gccatggcct atgatcgta tgtggccatt tgtatgcctc tccactatgg ggcttttgtg 420
tcttggggca cctgcatccg tctggcagct gcctgttggc tggtaggttt cctcacaccc 480
atcttgccaa tctacctctt gtctcagcta acattttgtg gcccaaagt cattgaccat 540
ttctcctgtg atgcctcacc cttgctagcc ttgtcgtgct cagatgtcac ttggaaggag 600
actgtggatt tcttgggtgc tctggctgtg ctactggcct cctctatggt cattgctgtg 660
tctatgggca acatcgctcg gacactgctg cacatccgct cagctgctga gcgctggaag 720
gcctttctta cctgtgcagc tcacctgact gtggtagagc tcttctatgg cactcttttc 780
tttatgtatg tccagaccaa ggtgacctcc tccatcaact tcaacaagggt ggtatctgtc 840
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gtgaaggagg ctctgggtcg agtcttttct ctcaactttt ggaagggaca gtga 954

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<210> 223  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

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<400> 223
Met Lys Arg Lys Asn Phe Thr Glu Val Ser Glu Phe Ile Phe Leu Gly
  1              5              10              15

Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu
      20              25              30

Thr Val Tyr Ile Leu Thr Leu Val Ala Asn Ile Ile Ile Val Thr Ile
      35              40              45

Ile Cys Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
      50              55              60

Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg
      65              70              75              80

Met Leu Leu Ser Leu Ile Phe His Asn Gln Pro Ile Ser Leu Ala Gly
      85              90              95

Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys
      100             105             110

Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Arg
      115             120             125

Pro Leu Arg Tyr Thr Val Ile Met Ser Lys Gly Leu Cys Ala Gln Leu
      130             135             140

Val Cys Gly Ser Phe Gly Ile Gly Leu Thr Met Ala Val Leu His Val
      145             150             155             160

Thr Ala Met Phe Asn Leu Pro Phe Cys Gly Thr Val Val Asp His Phe
      165             170             175

Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Ile Asp Thr Thr
      180             185             190

Ile Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Phe Val
      195             200             205

Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Val Ile Ser Ser Ile
      210             215             220

Leu Gln Ile Ala Ser Ala Glu Gly Arg Lys Lys Thr Phe Ala Thr Cys

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65		70		75		80									
Thr	Leu	Val	Ser	Phe	Leu	Ser	Glu	Arg	Lys	Thr	Ile	Ser	Phe	Ser	Gly
				85					90					95	
Cys	Ala	Val	Gln	Met	Phe	Leu	Gly	Leu	Ala	Met	Gly	Thr	Thr	Glu	Cys
			100					105					110		
Val	Leu	Leu	Gly	Met	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn
		115					120					125			
Pro	Leu	Arg	Tyr	Pro	Ile	Ile	Met	Ser	Lys	Asn	Ala	Tyr	Val	Pro	Met
	130					135					140				
Ala	Val	Gly	Ser	Trp	Phe	Ala	Gly	Ile	Val	Asn	Ser	Ala	Val	Gln	Thr
145					150					155					160
Thr	Phe	Val	Val	Gln	Leu	Pro	Phe	Cys	Arg	Lys	Asn	Val	Ile	Asn	His
			165						170					175	
Phe	Ser	Cys	Glu	Ile	Leu	Ala	Val	Met	Lys	Leu	Ala	Cys	Ala	Asp	Ile
		180						185					190		
Ser	Gly	Asn	Glu	Phe	Leu	Met	Leu	Val	Ala	Thr	Ile	Leu	Phe	Thr	Leu
	195						200					205			
Met	Pro	Leu	Leu	Leu	Ile	Val	Ile	Ser	Tyr	Ser	Leu	Ile	Ile	Ser	Ser
	210					215					220				
Ile	Leu	Lys	Ile	His	Ser	Ser	Glu	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr
225					230					235					240
Cys	Ser	Ala	His	Leu	Thr	Val	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Ile	Leu
			245						250					255	
Phe	Met	Tyr	Met	Lys	Pro	Lys	Ser	Lys	Glu	Thr	Leu	Asn	Ser	Asp	Asp
		260						265					270		
Leu	Asp	Ala	Thr	Asp	Lys	Ile	Ile	Ser	Met	Phe	Tyr	Gly	Val	Met	Thr
	275						280					285			
Pro	Met	Met	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys
	290					295					300				
Glu	Ala	Val	Lys	His	Leu	Pro	Asn	Arg	Arg	Phe	Phe	Ser	Lys		
305					310					315					

<210> 226

<211> 957

<212> DNA

<213> Homo sapiens

<400> 226

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gggaatggta ctctcathtt aatcagcatc ttggaccctc accttcacac ccctatgtac 180
ttctttcttg ggaacctctc cttcttggac atctgctaca ccaccacctc tattccctcc 240
acactagtga gcttcctttc agaaagaaag accatttcct tttctggctg tgcagtgcag 300
atgttccttg gcttggccat ggggacaaca gagtgtgtgc ttctgggcat gatggccttt 360
gaccgctatg tggctatctg caaccctctg agatatccca tcatcatgag caagaatgcc 420

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tatgtaccca tggctgttgg gtcctggttt gcagggattg tcaactctgc agtacaaact 480  
acattttag tagacaattgcc tttctgcagg aagaatgtca tcaatcattt ctcattgtgaa 540  
attctagctg tcatgaagtt ggcctgtgct gacatctcag gcaatgagtt cctcatgctt 600  
gtggccacaa tattgttcac attgatgccca ctgctcttga tagttatctc ttactcatta 660  
atcatttcca gcacccctcaa gattcactcc tctgagggga gaagcaaagc tttctctacc 720  
tgctcagccc atctgactgt ggtcataata ttctatggga ccatcctctt catgtatatg 780  
aagcccaagt ctaaagagac acttaattca gatgacttgg atgctaccga caaaattata 840  
tccatgttct atggggtgat gactcccatg atgaatcctt taatctacag tcttagaaac 900  
aaggatgtga aagaggcagt aaaacaccta ccgaacagaa gggttcttag caagtga 957

<210> 227

<211> 346

<212> PRT

<213> Homo sapiens

<400> 227

Met Tyr Arg Phe Thr Asp Phe Asp Val Ser Asn Ile Ser Ile Tyr Leu  
1 5 10 15

Asn His Val Leu Phe Tyr Thr Thr Gln Gln Ala Gly Asp Leu Glu His  
20 25 30

Met Glu Thr Arg Asn Tyr Ser Ala Met Thr Glu Phe Phe Leu Val Gly  
35 40 45

Leu Ser Gln Tyr Pro Glu Leu Gln Leu Phe Leu Phe Leu Leu Cys Leu  
50 55 60

Ile Met Tyr Met Ile Ile Leu Leu Gly Asn Ser Leu Leu Ile Ile Ile  
65 70 75 80

Thr Ile Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
85 90 95

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Ile Pro Pro  
100 105 110

Met Leu Ile Ile Phe Met Ser Glu Arg Lys Ser Ile Ser Phe Ile Gly  
115 120 125

Cys Ala Leu Gln Met Val Val Ser Leu Gly Leu Gly Ser Thr Glu Cys  
130 135 140

Val Leu Leu Ala Val Met Ala Tyr Asp His Tyr Val Ala Ile Cys Asn  
145 150 155 160

Pro Leu Arg Tyr Ser Ile Ile Met Asn Gly Val Leu Tyr Val Gln Met  
165 170 175

Ala Ala Trp Ser Trp Ile Ile Gly Cys Leu Thr Ser Leu Leu Gln Thr  
180 185 190

Val Leu Thr Met Met Leu Pro Phe Cys Gly Asn Asn Val Ile Asp His  
195 200 205

Ile Thr Cys Glu Ile Leu Ala Leu Leu Lys Leu Val Cys Ser Asp Ile  
210 215 220

Thr Ile Asn Val Leu Ile Met Thr Val Thr Asn Ile Val Ser Leu Val  
225 230 235 240

Ile Leu Leu Leu Leu Ile Phe Ile Ser Tyr Val Phe Ile Leu Ser Ser  
 245 250 255

Ile Leu Arg Ile Asn Cys Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 260 265 270

Cys Ser Ala His Ser Ile Val Val Ile Leu Phe Tyr Gly Ser Ala Leu  
 275 280 285

Phe Met Tyr Met Lys Pro Lys Ser Lys Asn Thr Asn Thr Ser Asp Glu  
 290 295 300

Ile Ile Gly Leu Ser Tyr Gly Val Val Ser Pro Met Leu Asn Pro Ile  
 305 310 315 320

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Val Lys Lys Val  
 325 330 335

Leu Ser Arg His Leu His Leu Leu Lys Met  
 340 345

<210> 228  
 <211> 1041  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
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 ttctatacta cccagcaggc aggtgacct gaacacatgg agacaagaaa ttactctgcc 120  
 atgactgaat tctttctggg ggggctttcc caatatccag agctccagct ttttctgttc 180  
 ctgctctgcc tcatcatgta catgataatc ctctctgggaa atagcctcct cattatcatc 240  
 accatcttgg attctcgcc ccatactccc atgtatttct ttcttgga aa cctctcattc 300  
 ttggacatct gttacacatc ctcattccatt cctccaatgc ttattatatt tatgtctgag 360  
 agaaaatcca tctccttcat tggctgtgct ctgcagatgg ttgtgtccct tggcttgggc 420  
 tccactgagt gtgtcctcct ggctgtgatg gcctatgacc actatgtggc catctgcaac 480  
 ccactgaggt actccatcat catgaacgga gtgctgtatg tgcaaatggc tgcattggcc 540  
 tggatcatag gctgtctgac ctccctattg caaacagttc tgacaatgat gttgcctttc 600  
 tgtgggaata atgtcattga tcatattacc tgtgaaattt tggcccttct aaaacttggt 660  
 tgttcagata tcaccatcaa tgtgcttacc atgacagtga caaatattgt ttactgggtg 720  
 attctctac tgttaatttt catctcctat gtgtttattc tctcttccat cctgagaatt 780  
 aattgtgctg aggggaagaaa gaaagccttc tctacctgtt cagcgcactc gattgtgggc 840  
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 acatctgatg agattattgg gctgtcttat ggagtggtaa gcccaatgtt aaatcccatc 960  
 atctatagcc tcaggaataa agaggtcaaa gaggtgtgaa agaaagtcct gagcagacat 1020  
 ctgcatttat tgaaaatgtg a 1041

<210> 229  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys  
 1 5 10 15  
 Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr  
 20 25 30

Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr  
 35 40 45  
 Asn Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala  
 50 55 60  
 Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly  
 65 70 75 80  
 Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser  
 85 90 95  
 Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe  
 100 105 110  
 Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His  
 115 120 125  
 Tyr Ser Thr Val Met Asn His His Met Cys Val Ala Leu Leu Ser Met  
 130 135 140  
 Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile  
 145 150 155 160  
 Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys  
 165 170 175  
 Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn  
 180 185 190  
 Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe  
 195 200 205  
 Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg  
 210 215 220  
 Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser  
 225 230 235 240  
 His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr  
 245 250 255  
 Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala  
 260 265 270  
 Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser  
 275 280 285  
 Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe  
 290 295 300  
 Leu Lys His  
 305

<210> 230

<211> 924

<212> DNA

<213> Homo sapiens

<400> 230

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ctcatcatca ttgccaaaat ctataacaac accttgcata cgcccatgta tgttttcctt 180
ctgacactgg ctggttggtga catcatctgc acaacaagca tcataccgaa gatgctgggg 240
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catctcacag tggtgaccct ttactattct cctgtaatct acacctatat ccgccctgct 780
tccagctata catttgaaag agacaagggt gtagctgcac tctatactct tgtgactccc 840
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gtgtttgcat ttctgaaaca ctag 924

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<210> 231  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

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<400> 231
Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr
  1                      5                      10                      15

Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile
      20                      25                      30

Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile
      35                      40                      45

Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu
      50                      55                      60

Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile
      65                      70                      75                      80

Leu Asn Ser Val Ala Ser Thr Asp Ser Ile Ser Phe Leu Gly Cys Val
      85                      90                      95

Leu Gln Leu Phe Leu Val Val Leu Leu Ala Gly Ser Glu Ile Gly Ile
      100                      105                      110

Leu Thr Ala Met Ser Tyr Asp Arg Tyr Ala Ala Ile Cys Cys Pro Leu
      115                      120                      125

His Cys Glu Ala Val Met Ser Arg Gly Leu Cys Val Gln Leu Met Ala
      130                      135                      140

Leu Ser Trp Leu Asn Arg Gly Ala Leu Gly Leu Leu Tyr Thr Ala Gly
      145                      150                      155                      160

Thr Phe Ser Leu Asn Phe Tyr Gly Ser Asp Glu Leu His Gln Phe Phe
      165                      170                      175

Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala
      180                      185                      190

Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys

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195	200	205
Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu		
210	215	220
Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val		
225	230	235 240
Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala		
	245	250 255
Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val		
	260	265 270
Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr		
	275	280 285
Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp		
	290	295 300
Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp		
305	310	315

<210> 232  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 232

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ctcctgaggc	tgcatgcttt	gctcttctca	ctgatctacc	tcacggctgt	gctgatgaat	120
ttagtcacat	ttctcctcat	gattctggac	catcgctccc	acatggcaat	gtactttttc	180
ctccgacatt	tgctcttctt	agacctgtgt	ctcatttctg	ccacagtccc	caaatccatc	240
ctcaactctg	tcgcctccac	tgactccatc	tccttctctg	gggtgtgtgt	gcagctcttc	300
ttgggtggtac	tgctggctgg	atcagagatt	ggcatcctta	ctgccatgtc	ctatgaccgc	360
tatgtctgcca	tctgtctgcc	cctacactgt	gaggctgtca	tgagcagagg	gctctgtgtc	420
cagttgatgg	ctctgtcctg	gctcaacaga	ggggccttgg	gactcttgta	cacagctgga	480
acattctctc	tgaattttta	tggtctctgat	gagctacatc	agttcttctg	cgatgtccct	540
gccctactaa	agctcacttg	ttctaaagaa	catgccatca	ttagtgctcag	tgtggccatt	600
ggggctctgtt	atgcattttc	atgttttagt	tgcatgttag	tttcttatgt	gtacattttc	660
tctgtctgtg	taaggatata	acagagacag	agacaatcca	aagccttttc	caactgtgtg	720
cctcacctca	ttgttgctac	tgtgtttctt	gtaacagggt	ctgttgctta	tttaaagcca	780
gggtctgatg	caccttctat	tctagacttg	ctgggtgtctg	tgttctattc	tgctgcacct	840
ccaaccttga	accctgttat	ctactgtctg	aagaacaagg	acattaaatc	cgctctgagt	900
aaagtctctg	ggaatgttag	aagcagtggg	gtaatgaaag	atgactaa		948

<210> 233  
 <211> 325  
 <212> PRT  
 <213> Homo sapiens

<400> 233

Met Phe Leu Tyr Leu Cys Phe Ile Phe Gln Arg Thr Cys Ser Glu Glu		
1	5	10 15
Met Glu Glu Glu Asn Ala Thr Leu Leu Thr Glu Phe Val Leu Thr Gly		
	20	25 30
Phe Leu His Gln Pro Asp Cys Lys Ile Pro Leu Phe Leu Ala Phe Leu		

35

40

45

Val Ile Tyr Leu Ile Thr Ile Met Gly Asn Leu Gly Leu Ile Val Leu  
 50 55 60  
 Ile Trp Lys Asp Pro His Leu His Ile Pro Met Tyr Leu Phe Leu Gly  
 65 70 75 80  
 Ser Leu Ala Phe Val Asp Ala Ser Leu Ser Ser Thr Val Thr Pro Lys  
 85 90 95  
 Met Leu Ile Asn Phe Leu Ala Lys Ser Lys Met Ile Ser Leu Ser Glu  
 100 105 110  
 Cys Met Val Gln Phe Phe Ser Leu Val Thr Thr Val Thr Thr Glu Cys  
 115 120 125  
 Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys  
 130 135 140  
 Ala Leu Leu Tyr Pro Val Ile Met Thr Asn Glu Leu Cys Ile Gln Leu  
 145 150 155 160  
 Leu Val Leu Ser Phe Ile Gly Gly Leu Leu His Ala Leu Ile His Glu  
 165 170 175  
 Ala Phe Ser Phe Arg Leu Thr Phe Cys Asn Ser Asn Ile Ile Gln His  
 180 185 190  
 Phe Tyr Cys Asp Ile Ile Pro Leu Leu Lys Ile Ser Cys Thr Asp Ser  
 195 200 205  
 Ser Ile Asn Phe Leu Met Val Phe Ile Phe Ala Gly Ser Val Gln Val  
 210 215 220  
 Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr  
 225 230 235 240  
 Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr  
 245 250 255  
 Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr  
 260 265 270  
 Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met  
 275 280 285  
 Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met  
 290 295 300  
 Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met  
 305 310 315 320  
 Phe Lys Ser Asn Val  
 325

&lt;210&gt; 234

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 234  
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aatgcaacat tgctgacaga gtttgttctc acaggatttt tacatcaacc tgactgtaaa 120  
ataccgctct tcctggcatt cttggtaata tatctcatca ccatcatggg gaatcttggg 180  
ctaattgttc tcatctggaa agaccctcac cttcatatcc caatgtactt attccttggg 240  
agtttagcct ttgtggatgc ttcgttatca tccacagtga ctccgaagat gctgatcaac 300  
ttcttagcta agagtaagat gatattcttc tctgaatgca tgggtacaatt tttttccctt 360  
gtaaccactg taaccacaga atgttttctc ttggcaacaa tggcatatga tcgctatgta 420  
gccatttgca aagctttact ttatccagtc attatgacca atgaactatg cattcagcta 480  
ttagtcttgt catttatagg tggccttctt catgctttta tccatgaagc tttttcattc 540  
agattaacct tctgtaattc caacataata caacactttt actgtgacat tatcccattg 600  
ttaaagattt cctgtactga ttcctctatt aacttttctaa tgggtttttat tttcgcaggg 660  
tctgttcaag tttttaccat tggaactatt cttatatctt atacaattat cctctttaca 720  
atcttagaaa agaagtctat caaagggata cgaaaagctg tctccacctg tggggctcat 780  
ctcttatctg tatctttata ctatggcccc ctcaccttca aatatctggg ctctgcatct 840  
ccgcaagcag atgaccaaga tatgatggag tctctatttt acactgtcat agttccttta 900  
ttaaatccca tgatctacag cctgagaaac aagcaagtaa tagcttcatt cacaaaaaatg 960  
ttcaaaagca atgttttag 978

<210> 235  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 235  
Met Ser Asn Glu Asp Met Glu Gln Asp Asn Thr Thr Leu Leu Thr Glu  
1 5 10 15  
Phe Val Leu Thr Gly Leu Thr Tyr Gln Pro Glu Trp Lys Met Pro Leu  
20 25 30  
Phe Leu Val Phe Leu Val Ile Tyr Leu Ile Thr Ile Val Trp Asn Leu  
35 40 45  
Gly Leu Ile Ala Leu Ile Trp Asn Asp Pro Gln Leu His Ile Pro Met  
50 55 60  
Tyr Phe Phe Leu Gly Ser Leu Ala Phe Val Asp Ala Trp Ile Ser Ser  
65 70 75 80  
Thr Val Thr Pro Lys Met Leu Val Asn Phe Leu Ala Lys Asn Arg Met  
85 90 95  
Ile Ser Leu Ser Glu Cys Met Ile Gln Phe Phe Ser Phe Ala Phe Gly  
100 105 110  
Gly Thr Thr Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
115 120 125  
Val Ala Ile Cys Lys Pro Leu Leu Tyr Pro Val Ile Met Asn Asn Ser  
130 135 140  
Leu Cys Ile Arg Leu Leu Ala Phe Ser Phe Leu Gly Gly Phe Leu His  
145 150 155 160  
Ala Leu Ile His Glu Val Leu Ile Phe Arg Leu Thr Phe Cys Asn Ser  
165 170 175  
Asn Ile Ile His His Phe Tyr Cys Asp Ile Ile Pro Leu Phe Met Ile

180                      185                      190  
 Ser Cys Thr Asp Pro Ser Ile Asn Phe Leu Met Val Phe Ile Leu Ser  
                     195                      200                      205  
 Gly Ser Ile Gln Val Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr  
                     210                      215                      220  
 Phe Ala Leu Phe Thr Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg  
                     225                      230                      235                      240  
 Lys Ala Phe Ser Thr Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr  
                     245                      250                      255  
 Tyr Gly Pro Leu Ile Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala  
                     260                      265                      270  
 Asp Asp Gln Asp Met Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro  
                     275                      280                      285  
 Leu Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp  
                     290                      295                      300  
 Ser Phe Thr Lys Met Val Lys Arg Asn Val  
                     305                      310

<210> 236  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 236  
 atgtcgaatg aggacatgga acaggataat acaacattgc tgacagagtt tgttctcaca 60  
 ggacttacat atcagccaga gtggaaaatg cccctgttct tgggtgttctt ggtgatctat 120  
 ctcataccta ttgtgtggaa ccttggtctg attgctctta tctggaatga cccacaactt 180  
 cacatcccca tgtacttttt tcttgggagt ttagcctttg ttgatgcttg gatattcttc 240  
 acagtaactc ccaaaatggt gggttaatttc ttggccaaaa acaggatgat atctctgtct 300  
 gaatgcatga ttcaattttt ttccctttgca ttgggtggaa ctacagaatg ttttctcttg 360  
 gcaacaatgg catatgatcg ctatgtagcc atatgcaaac ctttactata tccagtgtat 420  
 atgaacaatt cactatgcat acggtctgta gccttctcat ttttaggtgg cttcctccat 480  
 gccttaattc atgaagtcct tatattcaga ttaaccttct gcaattctaa cataatacat 540  
 catttttact gtgatattat accactgttt atgatttctt gtactgacct ttctattaat 600  
 tttctaattg tttttatttt gtctggctca attcaggat taccattgt gacagttctt 660  
 aattcttaca catttgctct tttcacaatc ctaaaaaaga agtctgttag aggcgtaagg 720  
 aaagcctttt ccacctgtgg agcccatctc ttatctgtct ctttatatta tggcccaact 780  
 atcttcatgt atttgcgccc tgcattctca caagcagatg accaagatat gatagactct 840  
 gtcttttata caatcataat tcctttgcta aatcccata tctacagtct gagaaataaa 900  
 caagtaatag attcattcac aaaaatggta aaaagaaatg ttttag 945

<210> 237  
 <211> 308  
 <212> PRT  
 <213> Homo sapiens

<400> 237  
 Met Glu Thr Gln Asn Leu Thr Val Val Thr Glu Phe Ile Leu Leu Gly  
                     1                      5                      10                      15  
 Leu Thr Gln Ser Gln Asp Ala Gln Leu Leu Val Phe Val Leu Val Leu

20					25					30					
Ile	Phe	Tyr	Leu	Ile	Ile	Leu	Pro	Gly	Asn	Phe	Leu	Ile	Ile	Phe	Thr
		35					40					45			
Ile	Lys	Ser	Asp	Pro	Gly	Leu	Thr	Ala	Pro	Leu	Tyr	Phe	Phe	Leu	Gly
	50					55					60				
Asn	Leu	Ala	Leu	Leu	Asp	Ala	Ser	Tyr	Ser	Phe	Ile	Val	Val	Pro	Arg
	65					70					75				80
Met	Leu	Val	Asp	Phe	Leu	Ser	Glu	Lys	Lys	Val	Ile	Ser	Tyr	Arg	Ser
				85					90					95	
Cys	Ile	Thr	Gln	Leu	Phe	Phe	Leu	His	Phe	Leu	Gly	Ala	Gly	Glu	Met
			100					105					110		
Phe	Leu	Leu	Val	Val	Met	Ala	Phe	Asp	Arg	Tyr	Ile	Ala	Ile	Cys	Arg
			115					120					125		
Pro	Leu	His	Tyr	Ser	Thr	Ile	Met	Asn	Pro	Arg	Ala	Cys	Tyr	Ala	Leu
						130					140				
Ser	Leu	Val	Leu	Trp	Leu	Gly	Gly	Phe	Ile	His	Ser	Ile	Val	Gln	Val
	145					150					155				160
Ala	Leu	Ile	Leu	His	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Gln	Leu	Asp	Asn
				165					170					175	
Phe	Phe	Cys	Asp	Val	Pro	Gln	Val	Ile	Lys	Leu	Ala	Cys	Thr	Asn	Thr
			180					185					190		
Phe	Val	Val	Glu	Leu	Leu	Met	Val	Ser	Asn	Ser	Gly	Leu	Leu	Ser	Leu
			195				200					205			
Leu	Cys	Phe	Leu	Gly	Leu	Leu	Ala	Ser	Tyr	Ala	Val	Ile	Leu	Cys	Arg
	210					215					220				
Ile	Arg	Glu	His	Ser	Ser	Glu	Gly	Lys	Ser	Lys	Ala	Ile	Ser	Thr	Cys
	225					230					235				240
Thr	Thr	His	Ile	Ile	Ile	Ile	Phe	Leu	Met	Phe	Gly	Pro	Ala	Ile	Phe
				245					250					255	
Ile	Tyr	Thr	Cys	Pro	Phe	Gln	Ala	Phe	Pro	Ala	Asp	Lys	Val	Val	Ser
			260					265					270		
Leu	Phe	His	Thr	Val	Ile	Phe	Pro	Leu	Met	Asn	Pro	Val	Ile	Tyr	Thr
			275				280					285			
Leu	Arg	Asn	Gln	Glu	Val	Lys	Ala	Ser	Met	Arg	Lys	Leu	Leu	Ser	Gln
	290					295					300				
His	Met	Phe	Cys												
	305														

<210> 238  
 <211> 927  
 <212> DNA  
 <213> Homo sapiens

<400> 238

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atggaaacac agaacctcac agtgggtgaca gaattcattc ttcttgggtct gacccagtct 60
caagatgctc aacttctggt ctttgtgcta gtcttaattt tctaccttat catcctccct 120
ggaaatttcc tcatcatttt caccataaag tcagaccctg ggctcacagc cccctctat 180
ttctttctgg gcaacttgge cttactggat gcatactact ccttcattgt ggttcccagg 240
atgttggtgg acttcctctc tgagaagaag gtaatctcct atagaagctg catcactcag 300
ctctttttct tgcattttct tggagcggga gagatgttcc tcctcggtgt gatggccttt 360
gaccgctaca tcgccatctg ccggccttta cactattcaa ccatcatgaa ccctagagcc 420
tgctatgcat tatcggttgg tctgtggctt gggggcctta tccattccat tgtacaagta 480
gcccttatcc tgcacttgcc tttctgtggc ccaaaccagc tcgataactt cttctgtgat 540
gttccacagg tcatcaagct ggctgcacc aatacctttg tgggtggagct tctgatggtc 600
tccaacagtg gcctgtcag cctcctgtgc ttctgggccc ttctggcctc ctatgcagtc 660
atcctctgtc gtataaggga gcactcctct gaaggaaaga gcaaggctat ttccacatgc 720
ccacccata ttatcattat atttctcatg tttggacctg ctattttcat ctacacttgc 780
cccttccagg ctttcccagc tgacaaggta gtttctcttt tccatactgt catctttcct 840
ttgatgaacc ctgttattta tacgcttcgc aaccaggagg tgaaagcttc catgaggaag 900
ttgttaagtc aacatatgtt ttgctga 927
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<210> 239

<211> 343

<212> PRT

<213> Homo sapiens

<400> 239

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Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe
  1                      5                      10                      15
```

```
Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met
          20                      25                      30
```

```
Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu
          35                      40                      45
```

```
Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val
          50                      55                      60
```

```
Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val
          65                      70                      75                      80
```

```
Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn
          85                      90                      95
```

```
Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val
          100                      105                      110
```

```
Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys
          115                      120                      125
```

```
Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val
          130                      135                      140
```

```
Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro
          145                      150                      155                      160
```

```
Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val
          165                      170                      175
```

```
Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro
          180                      185                      190
```

Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile  
195 200 205

Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr  
210 215 220

Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser  
225 230 235 240

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile  
245 250 255

Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr  
260 265 270

Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile  
275 280 285

Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val  
290 295 300

Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu  
305 310 315 320

Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe  
325 330 335

Val Asn Ser Arg Glu Asp Thr  
340

<210> 240

<211> 1032

<212> DNA

<213> Homo sapiens

<400> 240

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gggtcatccaa gagcgagctg taggatggag gccatgaaac tattaaatca atctcaagtg 120
tcagaattca ttttgctggg actgaccagc tcccaggatg tagagtttct tctctttgcc 180
ctcttctcgg ttatctatgt ggtcacagtt ttgggtaacc ttcttattat agtcacagtg 240
tttaacaccc ctaacctgaa tactcccatg tattttctcc ttggtaatct ctcttttgta 300
gatatgaccc ttgcttcttt tgccaccctt aagggtgattc tgaacttggt aaaaaagcag 360
aaggtaattt cttttgctgg gtgcttcaact cagatatttc tccttcactt actgggtggg 420
gttgaaatgg tactgttggt ctccatggct tttgacagat atgtggccat ttgtaagccc 480
ctacactaca tgaccatcat gaacaagaag gtatgtgttt tgctttagt gacctcatgg 540
ctcttgggtc tccttcactc agggtttcag ataccatttg ctgtgaactt gcccttttgt 600
ggteccaatg tggtagacag cattttttgt gacctccctt tggttactaa gcttgectgt 660
atagacatat attttgtaga ggtagtcatt gttgccaaca gtggcataat ctccctgagc 720
tgtttcatta ttttgcttat ctctacagt ctgactctca taaccattaa gaaccactct 780
cctactgggc aatctaaagc ccgttccact ttgactgctc acatcacagt ggtgattctc 840
ttctttggcc catgcatctt tatctacatt tggcccttcg gcaaccactc tgtagataag 900
ttccttgctg tgttttatac catcatcact cctatcttga atccaattat ctatactctg 960
agaaacaaag aaatgaagat atccatgaaa aaactctgga gagcttttgt gaattctaga 1020
gaagatactt ag 1032
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<210> 241

<211> 309

<212> PRT

<213> Homo sapiens

<400> 241

Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe  
1 5 10 15  
Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val  
20 25 30  
Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser  
35 40 45  
Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu  
50 55 60  
Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile  
65 70 75 80  
Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu  
85 90 95  
Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu  
100 105 110  
Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125  
His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala  
130 135 140  
Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val  
145 150 155 160  
Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe  
165 170 175  
Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met  
180 185 190  
Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser  
195 200 205  
Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg  
210 215 220  
Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser  
225 230 235 240  
His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr  
245 250 255  
Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe  
260 265 270  
Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg  
275 280 285  
Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu  
290 295 300  
Asn Pro Gly Arg Glu



305

<210> 242  
<211> 930  
<212> DNA  
<213> Homo sapiens

<400> 242  
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gtgcagagtg tatgctttgt ggtgtttctc cccgtgtacc ttgccacggt ggtgggcaat 120  
ggcctcatcg ttctgacggt cagtatcagc aagagtctgg attctcccat gtacttcttc 180  
cttagctgcc tgtccttggg ggagatcagt tattcctcca ctatcgcccc taaattcatc 240  
atagacttac ttgccaagat taaaaccatc tctctggaag gctgtctgac tcagatattc 300  
ttcttccact tctttggggg tgctgagatc cttttgattg tggatgatggc ctatgattgc 360  
tacgtggcca tttgcaagcc tcttcattat atgaacatta tcagtcgtca actgtgtcac 420  
cttctggtgg ctggttctct gctggggggc ttttgtcact ccataattca gattctcgtt 480  
atcatccaat tgcccttctg tgggtccaat gtgattgacc actatttctg tgacctccag 540  
cctttattca agcttgacct cactgacacc ttcattggagg gggttattgt gttggccaac 600  
agtggattat tctctgtctt ctccttctct atcttgggtg cctcttatat tgtcattctg 660  
gtcaacttga ggaaccattc tgcagagggg aggacacaaag ccctctccac ctgtgcttct 720  
cacatcacag tggatcatct gtttttttga cctgctatct tcctctacat gcgaccttct 780  
tccactttca ctgaagataa acttgtgggt gtattctaca cggatcatcac ccccatgctg 840  
aaccatca tttacacact caggaatgca gaggtgaaaa tcgccataag aagattgtgg 900  
agcaaaaagg agaattcagg gaggggagtga 930

<210> 243  
<211> 305  
<212> PRT  
<213> Homo sapiens

<400> 243  
Met Val Ala Thr Asn Asn Val Thr Glu Ile Ile Phe Val Gly Phe Ser  
1 5 10 15  
Gln Asn Trp Ser Glu Gln Arg Val Ile Ser Val Met Phe Leu Leu Met  
20 25 30  
Tyr Thr Ala Val Val Leu Gly Asn Gly Leu Ile Val Val Thr Ile Leu  
35 40 45  
Ala Ser Lys Val Leu Thr Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu  
50 55 60  
Ser Phe Val Glu Ile Cys Tyr Cys Ser Val Met Ala Pro Lys Leu Ile  
65 70 75 80  
Phe Asp Ser Phe Ile Lys Arg Lys Val Ile Ser Leu Lys Gly Cys Leu  
85 90 95  
Thr Gln Met Phe Ser Leu His Phe Phe Gly Gly Thr Glu Ala Phe Leu  
100 105 110  
Leu Met Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125  
His Tyr Met Ala Ile Met Asn Gln Arg Met Cys Gly Leu Leu Val Arg  
130 135 140  
Ile Ala Trp Gly Gly Gly Leu Leu His Ser Val Gly Gln Thr Phe Leu

145		150		155		160
Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Ile Met Asp His Tyr Phe						
	165		170			175
Cys Asp Val His Pro Val Leu Glu Leu Ala Cys Ala Asp Thr Phe Phe						
	180		185			190
Ile Ser Leu Leu Ile Ile Thr Asn Gly Gly Ser Ile Ser Val Val Ser						
	195		200			205
Phe Phe Val Leu Met Ala Ser Tyr Leu Ile Ile Leu His Phe Leu Arg						
	210		215			220
Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser						
225		230		235		240
His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr						
	245		250			255
Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe						
	260		265			270
Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg						
	275		280			285
Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val						
	290		295			300

Ile  
305

<210> 244  
<211> 918  
<212> DNA  
<213> Homo sapiens

<400> 244  
atggttgcta caaacaatgt gactgaaata attttcgtgg gattttccca gaattggagt 60  
gagcagaggg tcatttctgt gatgtttctc ctcattgtaca cagctgttgt gctgggcaat 120  
ggcctcattg tgggtgacct cctggccagc aaagtgtctc cctcccccat gtattttctt 180  
ctcagctact tatcctttgt ggagatctgc tactgttctg tcatggcccc caagcttatc 240  
tttgactcct ttatcaagag gaaagtcatt tctctcaagg gctgcctcac acagatgttt 300  
tccctccatt tctttggtgg cactgaggcc tttctcctga tggatgatggc ctatgaccgc 360  
tatgtggcca tctgcaagcc cttgcactac atggccatca tgaaccagcg aatgtgtggt 420  
ctcctcgtga ggatagcatg gggcgggggc ctgctgcatt ctgttgggca aaccttctg 480  
attttccagc tcccgttctg tggccccaac atcatggacc actacttctg tgatgtccac 540  
ccagtgtctg agctggcctg cgcagacacc ttcttcatta gcctgctgat catcaccaat 600  
ggcggctcca tctccgtagt cagtttcttc gtgctgatgg cttcctacct gatcatcctg 660  
cacttcctga gaagccacaa cttggagggg cagcacaagg ccctctccac ctgtgcctct 720  
catgtcacag ttgtcgacct gttcttcata ccttgctcct tgggtctatat taggccctgt 780  
gtcacccctc ctgcagacaa gatagtgtgt gtattttata cagtgggtcac acctctctta 840  
aacctgtgta ttactcctt caggaatgct gaagtgaaa atgccatgag gagatttatt 900  
gggggaaaag taatttga 918

<210> 245  
<211> 303  
<212> PRT  
<213> Homo sapiens

<400> 245

Met	Thr	Glu	Phe	Ile	Phe	Leu	Val	Leu	Ser	Pro	Asn	Gln	Glu	Val	Gln
1				5					10					15	
Arg	Val	Cys	Phe	Val	Ile	Phe	Leu	Phe	Leu	Tyr	Thr	Ala	Ile	Val	Leu
			20					25					30		
Gly	Asn	Phe	Leu	Ile	Val	Leu	Thr	Val	Met	Thr	Ser	Arg	Ser	Leu	Gly
		35					40					45			
Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Tyr	Leu	Ser	Phe	Met	Glu	Ile	Cys
	50					55					60				
Tyr	Ser	Ser	Ala	Thr	Ala	Pro	Lys	Leu	Ile	Ser	Asp	Leu	Leu	Ala	Glu
65					70					75					80
Arg	Lys	Val	Ile	Ser	Trp	Trp	Gly	Cys	Met	Ala	Gln	Leu	Phe	Phe	Leu
				85					90					95	
His	Phe	Phe	Gly	Gly	Thr	Glu	Ile	Phe	Leu	Leu	Thr	Val	Met	Ala	Tyr
			100					105					110		
Asp	His	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	Ser	Tyr	Thr	Thr	Ile	Met
	115						120					125			
Asn	Trp	Gln	Val	Cys	Thr	Val	Leu	Val	Gly	Ile	Ala	Trp	Val	Gly	Gly
	130					135					140				
Phe	Met	His	Ser	Phe	Ala	Gln	Ile	Leu	Leu	Ile	Phe	His	Leu	Leu	Phe
145					150					155					160
Cys	Gly	Pro	Asn	Val	Ile	Asn	His	Tyr	Phe	Cys	Asp	Leu	Val	Pro	Leu
				165					170					175	
Leu	Lys	Leu	Ala	Cys	Ser	Asp	Thr	Phe	Leu	Ile	Gly	Leu	Leu	Ile	Val
			180					185					190		
Ala	Asn	Gly	Gly	Thr	Leu	Ser	Val	Ile	Ser	Phe	Gly	Val	Leu	Leu	Ala
		195					200					205			
Ser	Tyr	Met	Val	Ile	Leu	Leu	His	Leu	Arg	Thr	Trp	Ser	Ser	Glu	Gly
	210					215					220				
Trp	Cys	Lys	Ala	Leu	Ser	Thr	Cys	Gly	Ser	His	Phe	Ala	Val	Val	Ile
225					230					235					240
Leu	Phe	Phe	Gly	Pro	Cys	Val	Phe	Asn	Ser	Leu	Arg	Pro	Ser	Thr	Thr
				245					250					255	
Leu	Pro	Ile	Asp	Lys	Met	Val	Ala	Val	Phe	Tyr	Thr	Val	Ile	Thr	Ala
			260					265					270		
Ile	Leu	Asn	Pro	Val	Ile	Tyr	Ser	Leu	Arg	Asn	Ala	Glu	Met	Arg	Lys
		275					280					285			
Ala	Met	Lys	Arg	Leu	Trp	Ile	Arg	Thr	Leu	Arg	Leu	Asn	Glu	Lys	
	290					295					300				

<210> 246

<211> 912  
<212> DNA  
<213> Homo sapiens

<400> 246  
atgactgaat tcatttttct ggtactttct cccaaccagg aggtgcagag ggtttgcttt 60  
gtgatatttc tggtcttgta cacagcaatt gtgctggga atttcctcat tgtgtcact 120  
gtcatgacca gcagaagcct tgggtccccc atgtacttct tcctcagcta cctctccttc 180  
atggagatct gctactcctc cgctacagcc cccaaactca tctcagatct gctggctgaa 240  
aggaaagtca tatcttggtg gggctgcatg gcacagcttt tcttcttgca cttctttggt 300  
ggcactgaga ttttctgct cactgtgatg gcctatgacc actatgtggc catctgcaag 360  
cccctcagct acaccacat catgaactgg cagggtgtgta ctgtccttgt aggaatagca 420  
tggttgaggag gcttcatgca ttcctttgca caaatccttc tcactctcca cctgctcttc 480  
tgtggcccca atgtgatcaa tcactatttc tgtgacctag ttccccttct caaacttgcc 540  
tgctctgaca ccttcctcat tggctctgctg attgttgcca atggaggcac cctgtctgtg 600  
atcagttttg ggtcctctt agcatcctat atggctcatct tgctccatct gagaacctgg 660  
agctctgaag ggtgggtgcaa agccctctcc acctgtgggt cccatttcgc tgtggttatt 720  
ttgttctttg ggccctgcgt cttcaactct ctgaggcctt ctaccactct gcccatagac 780  
aagatggtgg ctgtgttcta cacagtata accgcgatcc tgaacctgt catctactct 840  
ctgagaaatg ctgaaatgag gaaggccatg aagaggctgt ggattaggac attgagacta 900  
aatgagaaat ag 912

<210> 247  
<211> 325  
<212> PRT  
<213> Homo sapiens

<400> 247  
Met Thr Thr Ile Ile Leu Glu Val Asp Asn His Thr Val Thr Thr Arg  
1 5 10 15  
Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe  
20 25 30  
Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu  
35 40 45  
Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met  
50 55 60  
Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr  
65 70 75 80  
Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser  
85 90 95  
Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe  
100 105 110  
Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr  
115 120 125  
Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln  
130 135 140  
Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr  
145 150 155 160  
Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met  
165 170 175

Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val  
 180 185 190

Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala  
 195 200 205

Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala  
 210 215 220

Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe  
 245 250 255

Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala  
 260 265 270

Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro  
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala  
 290 295 300

Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn  
 305 310 315 320

Gly Ala Phe Ser Ser  
 325

<210> 248

<211> 978

<212> DNA

<213> Homo sapiens

<400> 248

atgaccacca	taattctgga	agtagataat	catacagtga	caacacgttt	cattcttctg	60
ggggtttccaa	cacgaccagc	cttccagctt	ctctttttct	ccattttcct	ggcaacctat	120
ctgctgacac	tgctggagaa	tcttcttatc	atcttagcta	tccacagtga	tgggcagctg	180
cataagccca	tgtacttctt	cttgagccac	ctctccttcc	tggagatgtg	gtatgtcaca	240
gtcatcagcc	ccaagatgct	tggtgacttc	ctcagtcatg	acaagagtat	ttccttcaat	300
ggctgcatga	ctcaacttta	cttttttggtg	acctttgtct	gcactgagta	catccttctt	360
gctatcatgg	cctttgaccg	ctatgtagcc	atttgtaatc	cactacgcta	cccagtcatc	420
atgaccaacc	agctctgtgg	cacactggct	ggaggatgct	ggttctgtgg	actcatgact	480
gccatgatta	agatgggttt	tatagcacia	cttcactact	gtggcatgcc	tcagatcaat	540
cactactttt	gtgatatctc	tccactcctt	aacgtctcct	gtgaggatgc	ctcacaggct	600
gagatgggtg	acttcttctt	ggccctcatg	gtcattgcta	ttcctctttg	tggtgtgggtg	660
gcacccctacg	ctgctatcct	tgccaccatc	ctcaggatcc	cttctgctca	gggccgccaa	720
aaggcattct	ccacctgtgc	ctcccacctg	accgtcgtaa	ttctcttcta	ttccatgaca	780
cttttcacct	atgcccgctc	caaactcatg	tatgcctaca	attccaacaa	agtgggtatct	840
gttctctaca	ctgtcattgt	tccactcctc	aaccccatca	tttactgtct	gaggaaccat	900
gaagtaaagg	cagccctcag	aaagaccata	cattgcagag	gaagtggggcc	ccaggggaaat	960
ggggctttca	gtagttaa					978

<210> 249

<211> 327

<212> PRT

<213> Homo sapiens

<400> 249

Met	Ile	Phe	Pro	Ser	His	Asp	Ser	Gln	Ala	Phe	Thr	Ser	Val	Asp	Met
1				5					10					15	
Glu	Val	Gly	Asn	Cys	Thr	Ile	Leu	Thr	Glu	Phe	Ile	Leu	Leu	Gly	Phe
			20					25					30		
Ser	Ala	Asp	Ser	Gln	Trp	Gln	Pro	Ile	Leu	Phe	Gly	Val	Phe	Leu	Met
		35					40					45			
Leu	Tyr	Leu	Ile	Thr	Leu	Ser	Gly	Asn	Met	Thr	Leu	Val	Ile	Leu	Ile
	50					55					60				
Arg	Thr	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Ile	Gly	Asn
65					70					75					80
Leu	Ser	Phe	Leu	Asp	Phe	Trp	Tyr	Thr	Ser	Val	Tyr	Thr	Pro	Lys	Ile
				85					90					95	
Leu	Ala	Ser	Cys	Val	Ser	Glu	Asp	Lys	Arg	Ile	Ser	Leu	Ala	Gly	Cys
			100					105					110		
Gly	Ala	Gln	Leu	Phe	Phe	Ser	Cys	Val	Val	Ala	Tyr	Thr	Glu	Cys	Tyr
		115					120					125			
Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	His	Ala	Ala	Ile	Cys	Asn	Pro
	130					135					140				
Leu	Leu	Tyr	Ser	Gly	Thr	Met	Ser	Thr	Ala	Leu	Cys	Thr	Gly	Leu	Val
145					150					155					160
Ala	Gly	Ser	Tyr	Ile	Gly	Gly	Phe	Leu	Asn	Ala	Ile	Ala	His	Thr	Ala
				165					170					175	
Asn	Thr	Phe	Arg	Leu	His	Phe	Cys	Gly	Lys	Asn	Ile	Ile	Asp	His	Phe
			180					185					190		
Phe	Cys	Asp	Ala	Pro	Pro	Leu	Val	Lys	Met	Ser	Cys	Thr	Asn	Thr	Arg
		195					200					205			
Val	Tyr	Glu	Lys	Val	Leu	Leu	Gly	Val	Val	Gly	Phe	Thr	Val	Leu	Ser
	210					215					220				
Ser	Ile	Leu	Ala	Ile	Leu	Ile	Ser	Tyr	Val	Asn	Ile	Leu	Leu	Ala	Ile
225					230					235					240
Leu	Arg	Ile	His	Ser	Ala	Ser	Gly	Arg	His	Lys	Ala	Phe	Ser	Thr	Cys
				245					250					255	
Ala	Ser	His	Leu	Ile	Ser	Val	Met	Leu	Phe	Tyr	Gly	Ser	Leu	Leu	Phe
			260					265					270		
Met	Tyr	Ser	Arg	Pro	Ser	Ser	Thr	Tyr	Ser	Leu	Glu	Arg	Asp	Lys	Val
		275					280					285			
Ala	Ala	Leu	Phe	Tyr	Thr	Val	Ile	Asn	Pro	Leu	Leu	Asn	Pro	Leu	Ile
		290				295					300				
Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Ile	Lys	Glu	Ala	Phe	Arg	Lys	Ala	Thr
305				310						315					320

Gln Thr Ile Gln Pro Gln Thr  
325

<210> 250  
<211> 984  
<212> DNA  
<213> Homo sapiens

<400> 250  
atgattttcc cttctcatga tagtcaggct ttcacctccg tggacatgga agtgggaaat 60  
tgcaccatcc tgactgaatt catcttggtg ggtttctcag cagattccca gtggcagccg 120  
attctatttg gagtgtttct gatgctctat ttgataacct tgtcaggaaa catgaccttg 180  
gttatcttaa tccgaactga ttcccacttg catcaccta tgtacttttt cattggcaat 240  
ctgtcttttt tggatttctg gtatacctct gtgtataccc ccaaaatcct ggccagttgt 300  
gtctcagaag ataagcgcac ttccttggct ggatgtgggg ctgagctgtt tttttcctgt 360  
gttgtagcct aactgaatg ctatctcctg gcagccatgg catatgaccg ccatgcagca 420  
atgtgtaacc cattgcttta ttcagggtacc atgtccaccg ccctctgtac tgggcttggt 480  
gctggctcct acataggagg atttttgaat gccatagccc atactgccaa tacattccgc 540  
ctgcattttt gtggtaaaaa tatcattgac cactttttct gtgatgcacc accattggta 600  
aaaatgtcct gtacaaacac cagggctctac gaaaaagtcc tgcttggtgt ggtgggcttc 660  
acagtactct ccagcattct tgctatcctg atttccctat tcaacatcct cctggctatc 720  
ctgagaatcc actcagcttc aggaagacac aaggcattct ccacctgtgc ttcccacctc 780  
atctcagtc tgcctcttcta tggatcattg ttgtttatgt attcaaggcc tagttccacc 840  
tactccctag agagggacaa agtagctgct ctgttctaca ccgtgatcaa cccactgctc 900  
aaccctctca tctatagcct gagaaacaaa gatatcaaag aggccttcag gaaagcaaca 960  
cagactatac aaccacaaac atga 984

<210> 251  
<211> 308  
<212> PRT  
<213> Homo sapiens

<400> 251  
Met Thr Met Glu Asn Tyr Ser Met Ala Ala Gln Phe Val Leu Asp Gly  
1 5 10 15  
Leu Thr Gln Gln Ala Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
20 25 30  
Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu  
35 40 45  
Ile Ala Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60  
Ser Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80  
Met Leu Val Asn Phe Leu Gly Lys Lys Asn Thr Ile Leu Tyr Ser Glu  
85 90 95  
Cys Met Val Gln Leu Phe Phe Phe Val Val Phe Val Val Ala Glu Gly  
100 105 110  
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser  
115 120 125  
Pro Leu Leu Tyr Asn Ala Ile Met Ser Ser Trp Val Cys Ser Leu Leu

130	135	140
Val Leu Ala Ala Phe Phe Leu Gly Phe Leu Ser Ala Leu Thr His Thr		
145	150	155 160
Ser Ala Met Met Lys Leu Ser Phe Cys Lys Ser His Ile Ile Asn His		
	165	170 175
Tyr Phe Cys Asp Val Leu Pro Leu Leu Asn Leu Ser Cys Ser Asn Thr		
	180	185 190
His Leu Asn Glu Leu Leu Leu Phe Ile Ile Ala Gly Phe Asn Thr Leu		
	195	200 205
Val Pro Thr Leu Ala Val Ala Val Ser Tyr Ala Phe Ile Leu Tyr Ser		
	210	215 220
Ile Leu His Ile Arg Ser Ser Glu Gly Arg Ser Lys Ala Phe Gly Thr		
225	230	235 240
Cys Ser Ser His Leu Met Ala Val Val Ile Phe Phe Gly Ser Ile Thr		
	245	250 255
Phe Met Tyr Phe Lys Pro Pro Ser Ser Asn Ser Leu Asp Gln Glu Lys		
	260	265 270
Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Arg Lys Val		
290	295	300
Leu Val Gly Lys		
305		

<210> 252  
 <211> 927  
 <212> DNA  
 <213> Homo sapiens

<400> 252  
 atgaccatgg aaaattattc tatggcagct cagtttgtct tagatggttt aacacagcaa 60  
 gcagagctcc agctgcccct ctctcctcctg ttcttgaggaa tctatgtggg cacagtagtg 120  
 ggcaacctgg gcatgattct cctgattgca gtcagccctc tacttcacac ccccatgtac 180  
 tatttcctca gcagcttggt ctctgctgat ttctgtctatt cctctgtcat tactcccaa 240  
 atgctgggtga acttcctagg aaagaagaat acaatccttt actctgagtg catgggtccag 300  
 ctctttttct ttgtggtctt tgtgggtggc gaggggtacc tctgactgc catggcatat 360  
 gatcgctatg ttgccatctg tagcccaactg ctttataatg cgatcatgtc ctcatgggtc 420  
 tgctcactgc tagtgctggc tgccttcttc ttgggctttc tctctgcctt gactcataca 480  
 agtgccatga tgaaactgtc cttttgcaaa tcccacatta tcaaccatta cttctgtgat 540  
 gttcttcccc tctcaatct ctcctgctcc aacacacacc tcaatgagct tctacttttt 600  
 atcattgctg ggtttaaacac cttgggtgccc accctagctg ttgctgtctc ctatgccttc 660  
 atcctctaca gcacccctca catccgctcc tcagagggcc ggtccaaagc ttttgaaca 720  
 tgcagctctc atctcatggc tgtgggtgatc ttctttgggt ccattacctt catgtatttc 780  
 aagccccctt caagtaactc cctggaccag gagaagggtg cctctgtgtt ctacaccacg 840  
 gtgatcccca tgctgaacct ttaatatatac agtctgagga ataaggatgt gaagaaagca 900  
 ttaaggaagg tcttagtagg aaaatga 927

<210> 253



<211> 322  
<212> PRT  
<213> Homo sapiens

<400> 253

Met	Ser	Pro	Glu	Asn	Gln	Ser	Ser	Val	Ser	Glu	Phe	Leu	Leu	Leu	Gly
1				5					10					15	
Leu	Pro	Ile	Arg	Pro	Glu	Gln	Gln	Ala	Val	Phe	Phe	Ala	Leu	Phe	Leu
			20					25					30		
Gly	Met	Tyr	Leu	Thr	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Met	Leu	Leu
	35						40					45			
Ile	Gln	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser
	50					55					60				
His	Leu	Ala	Leu	Thr	Asp	Ile	Ser	Phe	Ser	Ser	Val	Thr	Val	Pro	Lys
65					70					75					80
Met	Leu	Met	Asn	Met	Gln	Thr	Gln	His	Leu	Ala	Val	Phe	Tyr	Lys	Gly
				85					90					95	
Cys	Ile	Ser	Gln	Thr	Tyr	Phe	Phe	Ile	Phe	Phe	Ala	Asp	Leu	Asp	Ser
			100					105					110		
Phe	Leu	Ile	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His
	115						120					125			
Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Thr	Gln	Ser	Gln	Cys	Val	Met	Leu
	130					135					140				
Val	Ala	Gly	Ser	Trp	Val	Ile	Ala	Cys	Ala	Cys	Ala	Leu	Leu	His	Thr
145					150					155					160
Leu	Leu	Leu	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Asp	His	Ile	Ile	Pro	His
				165					170					175	
Tyr	Phe	Cys	Asp	Leu	Gly	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Asp	Thr
			180					185					190		
Ser	Leu	Asn	Gln	Leu	Ala	Ile	Phe	Thr	Ala	Ala	Leu	Thr	Ala	Ile	Met
		195					200					205			
Leu	Pro	Phe	Leu	Cys	Ile	Leu	Val	Ser	Tyr	Gly	His	Ile	Gly	Val	Thr
	210					215					220				
Ile	Leu	Gln	Ile	Pro	Ser	Thr	Lys	Gly	Ile	Cys	Lys	Ala	Leu	Ser	Thr
225					230					235					240
Cys	Gly	Ser	His	Leu	Ser	Val	Val	Thr	Ile	Tyr	Tyr	Arg	Thr	Ile	Ile
				245					250					255	
Gly	Leu	Tyr	Phe	Leu	Pro	Pro	Ser	Ser	Asn	Thr	Asn	Asp	Lys	Asn	Ile
			260					265					270		
Ile	Ala	Ser	Val	Ile	Tyr	Thr	Ala	Val	Thr	Pro	Met	Leu	Asn	Pro	Phe
			275				280					285			
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Ile	Lys	Gly	Ala	Leu	Arg	Lys	Leu
	290					295					300				

Leu Ser Arg Ser Gly Ala Val Ala His Ala Cys Asn Leu Ser Thr Leu  
 305 310 315 320

Gly Gly

<210> 254  
 <211> 969  
 <212> DNA  
 <213> Homo sapiens

<400> 254  
 atgagccctg agaaccagag cagcgtgtcc gagttcctcc tcctgggcct ccccatccgg 60  
 ccagagcagc aggccgtgtt cttcgccctg ttcctgggca tgtacctgac cagggtgctg 120  
 gggaacctgc tcatcatgct gctcatccag ctagactctc accttcacac ccccatgtac 180  
 ttcttcctta gccacttggc cctcactgac atctcctttt catctgtcac tgtccctaag 240  
 atgctgatga acatgcagac tcagcaccta gccgtctttt acaagggatg catttcacag 300  
 acatattttt tcatattttt tgctgactta gacagtttcc ttatcacttc aatggcatat 360  
 gacaggtatg tggccatctg tcacacctta cattatgccca ccatcatgac tcagagccag 420  
 tgtgtcatgc tgggtggctgg gtcctgggtc atcgcttggt cgtgtgctct ttgcatatcc 480  
 ctccctcctg cccagctttc cttctgtgct gaccacatca tccctcacta cttctgtgac 540  
 cttggtgccc tgctcaagtt gtcctgctca gacacctccc tcaatcagtt agcaatcttt 600  
 acagcagcat tgacagccat tatgcttcca ttctgtgca tcctgggttc ttatgggtcac 660  
 attggggtca ccatcctcca gattccctct accaagggca tatgcaaagc cttgtccact 720  
 tgtggatccc acctctcagt ggtgactatc tattatcgga caattattgg tctctatttt 780  
 cttcccccat ccagcaacac caatgacaag aacataattg cttcagtgat atacacagca 840  
 gtcactccca tgttgaacct attcatttac agtctgagaa ataaagacat taaggaggacc 900  
 ctaagaaaac tcttgagtag gtcaggcgca gtggctcatg cctgtaatct cagcactttg 960  
 ggaggctga 969

<210> 255  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 255  
 Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
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 Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Val Phe Leu Val Val  
 20 25 30  
 Tyr Ile Ile Thr Val Val Gly Asn Ile Gly Met Met Leu Leu Ile Lys  
 35 40 45  
 Val Ser Pro Gln Leu Asn Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
 65 70 75 80  
 Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Ser Tyr Ala Asp Cys Leu  
 85 90 95  
 Ala Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile  
 100 105 110  
 Leu Ala Ala Ile Ala Phe Asp Arg Tyr Thr Val Ile Gly Asn Pro Leu

115						120					125				
Leu	Tyr	Gly	Ser	Lys	Met	Ser	Arg	Gly	Val	Cys	Ile	Arg	Leu	Ile	Thr
130						135					140				
Phe	Pro	Tyr	Ile	Tyr	Gly	Phe	Leu	Thr	Ser	Leu	Thr	Ala	Thr	Leu	Trp
145					150					155					160
Thr	Tyr	Gly	Leu	Tyr	Phe	Cys	Gly	Lys	Ile	Glu	Ile	Asn	His	Phe	Tyr
			165						170					175	
Cys	Ala	Asp	Pro	Pro	Leu	Ile	Lys	Met	Ala	Cys	Ala	Gly	Thr	Phe	Val
			180					185					190		
Lys	Glu	Tyr	Thr	Met	Leu	Ile	Leu	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser
			195				200					205			
Leu	Thr	Val	Ile	Ile	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Ala	Ile	Leu
			210					215					220		
Arg	Met	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Gly
225					230					235					240
Ser	His	Pro	Thr	Ala	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Leu	Ile	Phe	Met
				245					250					255	
Tyr	Leu	Arg	Arg	Pro	Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val
			260					265					270		
Ala	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr
			275					280				285			
Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Met	Met	Lys	Val	Ile	Ser
	290					295					300				
Arg	Ser	Cys													
305															

<210> 256  
 <211> 924  
 <212> DNA  
 <213> Homo sapiens

<400> 256  
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 tggcaagttc tcttcttcat cgttttttctt gtggtctaca ttatcacctg ggtgggcaat 120  
 atcggcatga tgttgtaaat caaggctcagt cctcagctta acagcccat gtactttttc 180  
 ctcatgctact tgtcatttgt tgatgtgtgg ttttcttcca atgtcacccc taaaatggtg 240  
 gaaaatctgt tatcagataa aaaaacaatt tcttatgctg gctgttttagc acagtgtttc 300  
 ttcttcattg ctcttggtcca tgtggaaatt tttattcttg ctgcgattgc ctttgataga 360  
 tacacagtga ttggaaatcc tttgctttat ggcagcaaaa tgtcaaggga tgtctgtatt 420  
 cgactgatta ctttccctta catttatggg tttctgacga gtctgacagc aacattatgg 480  
 acttatggct tgtacttctg tggaaaaatt gagatcaacc atttctactg tgcagatcca 540  
 cctctcatca aaatggcctg tgccgggacc tttgtaaaag aatatacaat gctcatactt 600  
 gccggcatca acttcacata ttccctgact gtaattatca tctcttactt attcatcctc 660  
 attgccattc tgccaatgct ctcagcagaa ggaaggcaga aggccttttc cacatgtggg 720  
 tcccactga cagctgtcat catattctat ggtactctga tcttcatgta tctcagacgt 780  
 cccacagagg agtctgtgga gcaggggaag atgggtggctg tgttctatac cacagtgatc 840  
 cccatgttga atcccatgat ctacagtctg aggaacaagg atgtgaaaaa ggccatgatg 900  
 aaagtgatca gcagatcatg ttaa 924

<210> 257  
<211> 299  
<212> PRT  
<213> Homo sapiens

<400> 257  
Met Gly Phe Pro Gly Ile His Ser Trp Gln His Trp Leu Ser Leu Pro  
1 5 10 15  
Leu Ala Leu Leu Tyr Leu Leu Ala Leu Ser Ala Asn Ile Leu Ile Leu  
20 25 30  
Ile Ile Ile Asn Lys Glu Ala Ala Leu His Gln Pro Met Tyr Tyr Phe  
35 40 45  
Leu Gly Ile Leu Ala Met Ala Asp Ile Gly Leu Ala Thr Thr Ile Met  
50 55 60  
Pro Lys Ile Leu Ala Ile Leu Trp Phe Asn Ala Lys Thr Ile Ser Leu  
65 70 75 80  
Leu Glu Cys Phe Ala Gln Met Tyr Ala Ile His Cys Phe Val Ala Met  
85 90 95  
Glu Ser Ser Thr Phe Val Cys Met Ala Ile Asp Arg Tyr Val Ala Ile  
100 105 110  
Cys Arg Pro Leu Arg Tyr Pro Ser Ile Ile Thr Glu Ser Phe Val Phe  
115 120 125  
Lys Ala Asn Gly Phe Met Ala Leu Arg Asn Ser Leu Cys Leu Ile Ser  
130 135 140  
Val Pro Leu Leu Ala Ala Gln Arg His Tyr Cys Ser Gln Asn Gln Ile  
145 150 155 160  
Glu His Cys Leu Cys Ser Asn Leu Gly Val Thr Ser Leu Ser Cys Asp  
165 170 175  
Asp Arg Arg Ile Asn Ser Ile Asn Gln Val Leu Leu Ala Trp Thr Leu  
180 185 190  
Met Gly Ser Asp Leu Gly Leu Ile Ile Leu Ser Tyr Ala Leu Ile Leu  
195 200 205  
Tyr Ser Val Leu Lys Leu Asn Ser Pro Glu Ala Ala Ser Lys Ala Leu  
210 215 220  
Ser Thr Cys Thr Ser His Leu Ile Leu Ile Leu Phe Phe Tyr Thr Val  
225 230 235 240  
Ile Ile Val Ile Ser Ile Thr Arg Ser Thr Gly Met Arg Val Pro Leu  
245 250 255  
Ile Pro Val Leu Leu Asn Val Leu His Asn Val Ile Pro Pro Ala Leu  
260 265 270  
Asn Pro Met Val Tyr Ala Leu Lys Asn Lys Glu Leu Arg Gln Gly Leu  
275 280 285

Tyr Lys Val Leu Arg Leu Gly Val Lys Gly Thr  
290 295

<210> 258  
<211> 900  
<212> DNA  
<213> Homo sapiens

<400> 258  
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ctgcaccagc ctatgtacta tttcctgggc atcctgggcta tggcagacat aggcctggct 180  
accaccatca tgcctaagat tttggccatc ttatgggtca atgctaagac catcagtctc 240  
ctggagtgc ttgctcagat gtatgccata cattgctttg tggccatgga atcaagtacc 300  
tttgtctgca tggctattga tagatatgta gccatttgtc gaccgctacg atatccatca 360  
atcatcactg aatcttttgt tttcaaagca aatgggttca tggcactgag aaacagcctg 420  
tgtctcatct cagtgcctct gttggctgcc cagaggcatt actgctccca gaatcaaatt 480  
gagcactgtc tttgttctaa ccttggagtc actagcctat cttgtgatga tcgaagaatc 540  
aatagcatta accaggtcct tttggcttgg acactcatgg gaagtgcctt ggggttgatt 600  
attttatcat atgctctaata actttactct gtcctgaagc tgaactctcc agaagctgca 660  
tccaaggcct taagtacctg cacctcccac ctcatcttaa tccttttctt ctacacagtc 720  
atcattgtga tttccattac tcgtagtaca ggaatgagag ttccccttat tccagttcta 780  
cttaatgtgc tacacaatgt cattccccct gccctgaacc ccatgggtata tgcactcaag 840  
aacaaggaac tcaggcaagg cttatacaag gtacttagac tgggagtga gggcacctga 900

<210> 259  
<211> 321  
<212> PRT  
<213> Homo sapiens

<400> 259  
Met Leu Thr Leu Asn Lys Thr Asp Leu Ile Pro Ala Ser Phe Ile Leu  
1 5 10 15  
Asn Gly Val Pro Gly Leu Glu Asp Thr Gln Leu Trp Ile Ser Phe Pro  
20 25 30  
Phe Cys Ser Met Tyr Val Val Ala Met Val Gly Asn Cys Gly Leu Leu  
35 40 45  
Tyr Leu Ile His Tyr Glu Asp Ala Leu His Lys Pro Met Tyr Tyr Phe  
50 55 60  
Leu Ala Met Leu Ser Phe Thr Asp Leu Val Met Cys Ser Ser Thr Ile  
65 70 75 80  
Pro Lys Ala Leu Cys Ile Phe Trp Phe His Leu Lys Asp Ile Gly Phe  
85 90 95  
Asp Glu Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Thr Gly Met  
100 105 110  
Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile  
115 120 125  
Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Thr Asn Pro Val Ile Ala  
130 135 140

Lys Val Gly Thr Ala Thr Phe Leu Arg Gly Val Leu Leu Ile Ile Pro  
 145 150 155 160  
 Phe Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Ile Leu  
 165 170 175  
 Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Leu Ser Cys Gly  
 180 185 190  
 Asn Val Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile  
 195 200 205  
 Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu  
 210 215 220  
 Arg Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe  
 225 230 235 240  
 Asn Thr Cys Thr Ala His Ile Cys Ala Ile Val Phe Ser Tyr Thr Pro  
 245 250 255  
 Ala Phe Phe Ser Phe Phe Ser His Arg Phe Gly Glu His Ile Ile Pro  
 260 265 270  
 Pro Ser Cys His Ile Ile Val Ala Asn Ile Tyr Leu Leu Leu Pro Pro  
 275 280 285  
 Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp  
 290 295 300  
 Cys Val Ile Arg Ile Leu Ser Gly Ser Lys Asp Thr Lys Ser Tyr Ser  
 305 310 315 320

Met

<210> 260  
 <211> 966  
 <212> DNA  
 <213> Homo sapiens

<400> 260  
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 ggactggaag acacacaact ctggatttcc ttcccattct gctctatgta tgttgtggct 120  
 atggtaggga attgtggact cctctacctc attcactatg aggatgccct gcacaaaccc 180  
 atgtactact tcttggccat gctttccttt actgaccttg ttatgtgctc tagtacaatc 240  
 cctaaagccc tctgcatcct ctggtttcat ctcaaggaca ttggatttga tgaatgcctt 300  
 gtccagatgt tcttcatcca caccttcaca gggatggagt ctgggggtgct tatgcttatg 360  
 gccctggatc gctatgtggc catctgctac cccttacgct attcaactat cctcaccat 420  
 cctgtaattg caaaggttgg gactgccacc ttcctgagag gggattact cattattccc 480  
 tttactttcc tcaccaagcg cctgccctac tgcagaggca atatacttcc ccatacctac 540  
 tgtgaccaca tgtctgtagc caaattgtcc tgtggtaatg tcaaggtcaa tgccatctat 600  
 ggtctgatgg ttgccctcct gattgggggc ttgacatac tgtgtatcac catctcctat 660  
 accatgattc tccgggcagt ggtcagcctc tcctcagcag atgctcggca gaaggccttt 720  
 aatacctgca ctgcccacat ttgtgccatt gttttctcct atactccage tttcttctcc 780  
 ttcttttccc accgcttttg ggaacacata atccccctt cttgccacat cattgtagcc 840  
 aatattttatc tgctcctacc acccactatg aaccctattg tctatggggt gaaaaccaa 900  
 cagatacgag actgtgtcat aaggatcctt tcaggttcta aggataccaa atcctacagc 960  
 atgtga 966

<210> 261  
<211> 329  
<212> PRT  
<213> Homo sapiens

<400> 261  
Met Ser Ser Thr Leu Gly His Asn Met Glu Ser Pro Asn His Thr Asp  
1 5 10 15  
Val Asp Pro Ser Val Phe Phe Leu Leu Gly Ile Pro Gly Leu Glu Gln  
20 25 30  
Phe His Leu Trp Leu Ser Leu Pro Val Cys Gly Leu Gly Thr Ala Thr  
35 40 45  
Ile Val Gly Asn Ile Thr Ile Leu Val Val Val Ala Thr Glu Pro Val  
50 55 60  
Leu His Lys Pro Val Tyr Leu Phe Leu Cys Met Leu Ser Thr Ile Asp  
65 70 75 80  
Leu Ala Ala Ser Val Ser Thr Val Pro Lys Leu Leu Ala Ile Phe Trp  
85 90 95  
Cys Gly Ala Gly His Ile Ser Ala Ser Ala Cys Leu Ala Gln Met Phe  
100 105 110  
Phe Ile His Ala Phe Cys Met Met Glu Ser Thr Val Leu Leu Ala Met  
115 120 125  
Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Thr  
130 135 140  
Ile Leu Thr Asp Thr Ile Ile Ala His Ile Gly Val Ala Ala Val Val  
145 150 155 160  
Arg Gly Ser Leu Leu Met Leu Pro Cys Pro Phe Leu Ile Gly Arg Leu  
165 170 175  
Asn Phe Cys Gln Ser His Val Ile Leu His Thr Tyr Cys Glu His Met  
180 185 190  
Ala Val Val Lys Leu Ala Cys Gly Asp Thr Arg Pro Asn Arg Val Tyr  
195 200 205  
Gly Leu Thr Ala Ala Leu Leu Val Ile Gly Val Asp Leu Phe Cys Ile  
210 215 220  
Gly Leu Ser Tyr Ala Leu Ser Ala Gln Ala Val Leu Arg Leu Ser Ser  
225 230 235 240  
His Glu Ala Arg Ser Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys  
245 250 255  
Val Ile Leu Ile Ser Tyr Thr Pro Ala Leu Phe Ser Phe Phe Thr His  
260 265 270  
Arg Phe Gly His His Val Pro Val His Ile His Ile Leu Leu Ala Asn  
275 280 285  
Val Tyr Leu Leu Leu Pro Pro Ala Leu Asn Pro Val Val Tyr Gly Val

290

295

300

Lys Thr Lys Gln Ile Arg Lys Arg Val Val Arg Val Phe Gln Ser Gly  
 305 310 315 320

Gln Gly Met Gly Ile Lys Ala Ser Glu  
 325

&lt;210&gt; 262

&lt;211&gt; 990

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 262

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atgtccagca ctcttggcca caacatggaa tctcctaatac acactgatgt tgacccttct 60
gtcttcttcc tcttgggcat cccagggtctg gaacaatttc atttgtggct ctcactccct 120
gtgtgtgggt taggcacagc cacaattgtg ggcaatataa ctattctggg tgttggtgac 180
actgaaccag tcttgcacaa gcctgtgtac ctttttctgt gcatgctctc aaccatcgac 240
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catatatctg cctctgcctg cctggcacag atgttcttca ttcatgcctt ctgcatgatg 360
gagtccactg tgctactggc catggccttt gatcgctacg tggccatctg ccaccactc 420
cgctatgcca caatcctcac tgacaccatc attgcccaca taggggtggc agctgtagtg 480
cgaggctccc tgctcatgct cccatgtccc ttccttattg ggcgtttgaa cttctgccaa 540
agccatgtga tcctacacac gtactgtgag cacatggctg tgggtgaagc ggctgtgga 600
gacaccaggc ctaaccgtgt gtatgggctg acagctgcac tgttggtcat tggggttgac 660
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catgaagctc ggtccaaggc cctagggacc tgtgggtccc atgtctgtgt catcctcatc 780
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catattcaca ttcttttggc caatgtttat ctgcttttgc cacctgctct taatcctgtg 900
gtatatggag ttaagaccaa acagatccgt aaaagagttg tcagggtgtt tcaaagtggg 960
cagggaatgg gcatcaaggc atctgagtga 990

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&lt;210&gt; 263

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 263

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Met Leu Gly Leu Asn Gly Thr Pro Phe Gln Pro Ala Thr Leu Gln Leu
  1 5 10 15
Thr Gly Ile Pro Gly Ile Gln Thr Gly Leu Thr Trp Val Ala Leu Ile
  20 25 30
Phe Cys Ile Leu Tyr Met Ile Ser Ile Val Gly Asn Leu Ser Ile Leu
  35 40 45
Thr Leu Val Phe Trp Glu Pro Ala Leu His Gln Pro Met Tyr Tyr Phe
  50 55 60
Leu Ser Met Leu Ala Leu Asn Asp Leu Gly Val Ser Phe Ser Thr Leu
  65 70 75 80
Pro Thr Val Ile Ser Thr Phe Cys Phe Asn Tyr Asn His Val Ala Phe
  85 90 95
Asn Ala Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Ser Phe Met
  100 105 110

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Glu Ser Gly Ile Leu Leu Ala Met Ser Leu Asp Arg Phe Val Ala Ile  
 115 120 125  
 Cys Tyr Pro Leu Arg Tyr Val Thr Val Leu Thr His Asn Arg Ile Leu  
 130 135 140  
 Ala Met Gly Leu Gly Ile Leu Thr Lys Ser Phe Thr Thr Leu Phe Pro  
 145 150 155 160  
 Phe Pro Phe Val Val Lys Arg Leu Pro Phe Cys Lys Gly Asn Val Leu  
 165 170 175  
 His His Ser Tyr Cys Leu His Pro Asp Leu Met Lys Val Ala Cys Gly  
 180 185 190  
 Asp Ile His Val Asn Asn Ile Tyr Gly Leu Leu Val Ile Ile Phe Thr  
 195 200 205  
 Tyr Gly Met Asp Ser Thr Phe Ile Leu Leu Ser Tyr Ala Leu Ile Leu  
 210 215 220  
 Arg Ala Met Leu Val Ile Ile Ser Gln Glu Gln Arg Leu Lys Ala Leu  
 225 230 235 240  
 Asn Thr Cys Met Ser His Ile Cys Ala Val Leu Ala Phe Tyr Val Pro  
 245 250 255  
 Ile Ile Ala Val Ser Met Ile His Arg Phe Trp Lys Ser Ala Pro Pro  
 260 265 270  
 Val Val His Val Met Met Ser Asn Val Tyr Leu Phe Val Pro Pro Met  
 275 280 285  
 Leu Asn Pro Ile Ile Tyr Ser Val Lys Thr Lys Glu Ile Arg Lys Gly  
 290 295 300  
 Ile Leu Lys Phe Phe His Lys Ser Gln Ala  
 305 310

<210> 264  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 264  
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 attgtaggta acctcagcat tctcactctg gtgttttggg agcctgctct gcatcagccc 180  
 atgtactact tcctctctat gctcgctctc aatgatctgg gagtgtcctt ttctacactt 240  
 cccactgtga tttctacttt ctgcttcaac tacaaccatg ttgcgtttta tgcttgcttg 300  
 gtccagatgt tcttcatcca cactttctcc ttcattggagt caggcatact gctggccatg 360  
 agcttggatc gctttgtggc tatttgttat ccattacgct atgtcactgt gctcactcac 420  
 aaccgtatat tggctatggg tctgggcatc cttaccaaga gtttcaccac tctcttccct 480  
 ttcccttttg tggtgaaacg actgcccttc tgcaaaggca atgttttgca tcaactcctac 540  
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 aacacctgca tgtcacacat ctgtgcagt ctggcctttt atgtgcccac aattgctgtc 780  
 tccatgattc accgcttctg gaaaagtgt ccacctgttg ttcattgtcat gatgtccaat 840  
 gtctacctgt ttgtaccacc catgctcaac cctatcatct acagtgtgaa aaccaaggag 900

atccgcaaag ggattctcaa gttcttccat aaatcccagg cctga

945

<210> 265  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 265  
Met Gly Leu Phe Asn Val Thr His Pro Ala Phe Phe Leu Leu Thr Gly  
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Ile Pro Gly Leu Glu Ser Ser His Ser Trp Leu Ser Gly Pro Leu Cys  
20 25 30  
Val Met Tyr Ala Val Ala Leu Gly Gly Asn Thr Val Ile Leu Gln Ala  
35 40 45  
Val Arg Val Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ser  
50 55 60  
Met Leu Ser Phe Ser Asp Val Ala Ile Ser Met Ala Thr Leu Pro Thr  
65 70 75 80  
Val Leu Arg Thr Phe Cys Leu Asn Ala Arg Asn Ile Thr Phe Asp Ala  
85 90 95  
Cys Leu Ile Gln Met Phe Leu Ile His Phe Phe Ser Met Met Glu Ser  
100 105 110  
Gly Ile Leu Leu Ala Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asp  
115 120 125  
Pro Leu Arg Tyr Ala Thr Val Leu Thr Thr Glu Val Ile Ala Ala Met  
130 135 140  
Gly Leu Gly Ala Ala Ala Arg Ser Phe Ile Thr Leu Phe Pro Leu Pro  
145 150 155 160  
Phe Leu Ile Lys Arg Leu Pro Ile Cys Arg Ser Asn Val Leu Ser His  
165 170 175  
Ser Tyr Cys Leu His Pro Asp Met Met Arg Leu Ala Cys Ala Asp Ile  
180 185 190  
Ser Ile Asn Ser Ile Tyr Gly Leu Phe Val Leu Val Ser Thr Phe Gly  
195 200 205  
Met Asp Leu Phe Phe Ile Phe Leu Ser Tyr Val Leu Ile Leu Arg Ser  
210 215 220  
Val Met Ala Thr Ala Ser Arg Glu Glu Arg Leu Lys Ala Leu Asn Thr  
225 230 235 240  
Cys Val Ser His Ile Leu Ala Val Leu Ala Phe Tyr Val Pro Met Ile  
245 250 255  
Gly Val Ser Thr Val His Arg Phe Gly Lys His Val Pro Cys Tyr Ile  
260 265 270  
His Val Leu Met Ser Asn Val Tyr Leu Phe Val Pro Pro Val Leu Asn

275

280

285

Pro Leu Ile Tyr Ser Ala Lys Thr Lys Glu Ile Arg Arg Ala Ile Phe  
 290 295 300

Arg Met Phe His His Ile Lys Ile  
 305 310

&lt;210&gt; 266

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 266

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ggaaatacag tgatcctgca ggctgtgcga gtggagccca gcctccatga gcccatgtac 180
tacttcctgt ccatgttgct cttcagtgat gtggccatat ccatggccac actgcccact 240
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atgtttctta ttcacttctt ctccatgatg gaatcaggta ttctgctggc catgagtttt 360
gaccgctatg tggccatttg tgaccccttg cgctatgcaa ctgtgctcac cactgaagtc 420
attgctgcaa tgggtttagg tgcagctgct cgaagcttca tcaccctttt ccctcttccc 480
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caccagaca tgatgaggct tgctgtgct gatatcagta tcaacagcat ctatggactc 600
tttgttcttg tatccacctt tggcatggac ctgtttttta tcttctctc ctatgtgctc 660
attctgcgtt ctgtcatggc cactgcttcc cgtgaggaac gcctcaaagc tctcaacaca 720
tgtgtgtcac atatcctggc tgtacttgca ttttatgtgc caatgattgg ggtctccaca 780
gtgcaccgct ttgggaagca tgtcccatgc tacatacatg tcctcatgtc aaatgtgtac 840
ctatttgctg ctctgtgct caaccctctc atttatagcg ccaagacaaa ggaaatccgc 900
cgagccattt tccgcatgtt tcaccacatc aaaatatga 939

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&lt;210&gt; 267

&lt;211&gt; 326

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 267

Met Ser Val Gln Tyr Ser Leu Ser Pro Gln Phe Met Leu Leu Ser Asn  
 1 5 10 15

Ile Thr Gln Phe Ser Pro Ile Phe Tyr Leu Thr Ser Phe Pro Gly Leu  
 20 25 30

Glu Gly Ile Lys His Trp Ile Phe Ile Pro Phe Phe Phe Met Tyr Met  
 35 40 45

Val Ala Ile Ser Gly Asn Cys Phe Ile Leu Ile Ile Ile Lys Thr Asn  
 50 55 60

Pro Arg Leu His Thr Pro Met Tyr Tyr Leu Leu Ser Leu Leu Ala Leu  
 65 70 75 80

Thr Asp Leu Gly Leu Cys Val Ser Thr Leu Pro Thr Thr Met Gly Ile  
 85 90 95

Phe Trp Phe Asn Ser Gln Ser Ile Tyr Phe Gly Ala Cys Gln Ile Gln  
 100 105 110

Met Phe Cys Ile His Ser Phe Ser Phe Met Glu Ser Ser Val Leu Leu

115	120	125
Met Met Ser Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg Tyr		
130	135	140
Ser Val Ile Ile Thr Gly Gln Gln Val Val Arg Ala Gly Leu Ile Val		
145	150	155
Ile Phe Arg Gly Pro Val Ala Thr Ile Pro Ile Val Leu Leu Leu Lys		
165	170	175
Ala Phe Pro Tyr Cys Gly Ser Val Val Leu Ser His Ser Phe Cys Leu		
180	185	190
His Gln Glu Val Ile Gln Leu Ala Cys Thr Asp Thr Thr Phe Asn Asn		
195	200	205
Leu Tyr Gly Leu Met Val Val Val Phe Thr Val Met Leu Asp Leu Val		
210	215	220
Leu Ile Ala Leu Ser Tyr Gly Leu Ile Leu His Thr Val Ala Gly Leu		
225	230	235
Ala Ser Gln Glu Glu Gln Arg Arg Ala Phe Gln Thr Cys Thr Ala His		
245	250	255
Leu Cys Ala Val Leu Val Phe Phe Val Pro Met Met Gly Leu Ser Leu		
260	265	270
Val His Arg Phe Gly Lys His Ala Pro Pro Ala Ile His Leu Leu Met		
275	280	285
Ala Asn Val Tyr Leu Phe Val Pro Pro Met Leu Asn Pro Ile Ile Tyr		
290	295	300
Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile Ile Lys Leu Leu Gly		
305	310	315
Leu Lys Lys Ala Ser Lys		
325		

<210> 268  
 <211> 981  
 <212> DNA  
 <213> Homo sapiens

<400> 268  
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 agccccatat tctatctcac cagctttcct ggattggaag gcatcaaaca ctggattttc 120  
 atccccctttt tctttatgta catgggtgcc atctcaggca attgtttcat tctgatcatt 180  
 attaagacca accctcgtct gcacacaccc atgtactatc tactatcctt gctggccctc 240  
 actgacctgg ggctgtgtgt gtccacgttg cccaccacta tggggatctt ctggtttaac 300  
 tcccagagta tctacttttg agcgtgtcaa atccagatgt tctgcatcca ctctttttcc 360  
 ttcattggagt cctcagtgct cctcatgatg tccttgacc gctttgtggc catctgccac 420  
 cctctgaggt attcggatcat tatcactggc cagcaagtgg tcagagcagg cctaattgtc 480  
 atcttcctggg gacctgtggc cactatccct attgtcctcc tcctgaaggc ttttccctac 540  
 tgtggatctg tggctccttc ccactcattt tgctgcacc aggaagtgat acagctggcc 600  
 tgcacagata ccaccttcaa taatctgtat ggactgatgg tggtagtttt cactgtgatg 660  
 ctggacctgg tgcctatcgc actgtcctat ggactcatcc tgcacacagt agcaggcctg 720  
 gcctcccaag aggagcagcg ccgtgccttt cagacatgca ccgctcatct ctgtgctgtg 780

ctagtattct ttgtgcccac gatggggctg tccctgggtgc accgttttgg gaagcatgcc 840  
ccacctgcta ttcattcttct tatggccaat gtctaccttt ttgtgcctcc catgcttaac 900  
ccaatcatat acagcattaa gaccaaggag atccaccgtg ccattatcaa actcctaggt 960  
cttaaaaagg ccagtaaatag a 981

<210> 269  
<211> 317  
<212> PRT  
<213> Homo sapiens

<400> 269

Met	Ser	Gln	Val	Thr	Asn	Thr	Thr	Gln	Glu	Gly	Ile	Tyr	Phe	Ile	Leu	1	5	10	15
Thr	Asp	Ile	Pro	Gly	Phe	Glu	Ala	Ser	His	Ile	Trp	Ile	Ser	Ile	Pro	20	25	30	
Val	Cys	Cys	Leu	Tyr	Thr	Ile	Ser	Ile	Met	Gly	Asn	Thr	Thr	Ile	Leu	35	40	45	
Thr	Val	Ile	Arg	Thr	Glu	Pro	Ser	Val	His	Gln	Arg	Met	Tyr	Leu	Phe	50	55	60	
Leu	Ser	Met	Leu	Ala	Leu	Thr	Asp	Leu	Gly	Leu	Thr	Leu	Thr	Thr	Leu	65	70	75	80
Pro	Thr	Val	Met	Gln	Leu	Leu	Trp	Phe	Asn	Val	Arg	Arg	Ile	Ser	Ser	85	90	95	
Glu	Ala	Cys	Phe	Ala	Gln	Phe	Phe	Phe	Leu	His	Gly	Phe	Ser	Phe	Met	100	105	110	
Glu	Ser	Ser	Val	Leu	Leu	Ala	Met	Ser	Val	Asp	Cys	Tyr	Val	Ala	Ile	115	120	125	
Cys	Cys	Pro	Leu	His	Tyr	Ala	Ser	Ile	Leu	Thr	Asn	Glu	Val	Ile	Gly	130	135	140	
Arg	Thr	Gly	Leu	Ala	Ile	Ile	Cys	Cys	Cys	Val	Leu	Ala	Val	Leu	Pro	145	150	155	160
Ser	Leu	Phe	Leu	Leu	Lys	Arg	Leu	Pro	Phe	Cys	His	Ser	His	Leu	Leu	165	170	175	
Ser	Arg	Ser	Tyr	Cys	Leu	His	Gln	Asp	Met	Ile	Arg	Leu	Val	Cys	Ala	180	185	190	
Asp	Ile	Arg	Leu	Asn	Ser	Trp	Tyr	Gly	Phe	Ala	Leu	Ala	Leu	Leu	Ile	195	200	205	
Ile	Ile	Val	Asp	Pro	Leu	Leu	Ile	Val	Ile	Ser	Tyr	Thr	Leu	Ile	Leu	210	215	220	
Lys	Asn	Ile	Leu	Gly	Thr	Ala	Thr	Trp	Ala	Glu	Arg	Leu	Arg	Ala	Leu	225	230	235	240
Asn	Asn	Cys	Leu	Ser	His	Ile	Leu	Ala	Val	Leu	Val	Leu	Tyr	Ile	Pro	245	250	255	
Met	Val	Gly	Val	Ser	Met	Thr	His	Arg	Phe	Ala	Lys	His	Ala	Ser	Pro				

260

265

270

Leu Val His Val Ile Met Ala Asn Ile Tyr Leu Leu Ala Pro Pro Val  
 275 280 285

Met Asn Pro Ile Ile Tyr Ser Val Lys Asn Lys Gln Ile Gln Trp Gly  
 290 295 300

Met Leu Asn Phe Leu Ser Leu Lys Asn Met His Ser Arg  
 305 310 315

&lt;210&gt; 270

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 270

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atgtcccagg tgactaacac cacacaagaa ggcattctact tcattcctcac ggacatccct 60
ggatttgagg cctcccacat ctggatctcc atccccgtct gctgtctcta caccatctcc 120
atcatgggca ataccacat cctcactgtc attcgacag agccatctgt ccaccagcgc 180
atgtatctgt ttctctccat gctggccctg acggacctgg gtctcaccct caccacccta 240
cccacagtca tgcagcttct ctggttcaac gttcgtagaa tcagctctga ggcctgtttt 300
gctcagtttt tcttcttcca tggattctcc tttatggagt cttctgtcct cctggctatg 360
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gaagtcattg gtagaactgg gttagccatc atttgctgct gtgttctggc ggttcttccc 480
tcccttttct tactcaagcg actgcctttc tgccactccc accttctctc tcgctcctat 540
tgccctccacc aggatatgat ccgcctgggc tgtgctgaca tcagggtcaa cagctgggat 600
ggatttgctc ttgccttgct cattattatc gtggatcctc tgctcattgt gatctcctat 660
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tctatgactc atcgctttgc caagcatgcc tctccactgg tccatggtat catggccaat 840
atctacctgc tggcaccccc ggtgatgaac cccatcattt acagtgtaaa gaacaagcag 900
atccaatggg gaatgttaaa tttcctttcc ctcaaaaata tgcattcaag atga 954

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&lt;210&gt; 271

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 271

Met Pro Ser Ala Ser Ala Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn  
 1 5 10 15

Pro Gly Pro Phe Ile Leu Val Gly Ile Pro Gly Leu Glu Gln Phe His  
 20 25 30

Val Trp Ile Gly Ile Pro Phe Cys Ile Ile Tyr Ile Val Ala Val Val  
 35 40 45

Gly Asn Cys Ile Leu Leu Tyr Leu Ile Val Val Glu His Ser Leu His  
 50 55 60

Glu Pro Met Phe Phe Phe Leu Ser Met Leu Ala Met Thr Asp Leu Ile  
 65 70 75 80

Leu Ser Thr Ala Gly Val Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly  
 85 90 95

Ala Arg Glu Ile Thr Phe Pro Gly Cys Leu Thr Gln Met Phe Phe Leu

100

105

110

His Tyr Asn Phe Val Leu Asp Ser Ala Ile Leu Met Ala Met Ala Phe  
 115 120 125  
 Asp His Tyr Val Ala Ile Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu  
 130 135 140  
 Thr Pro Lys Thr Ile Ile Lys Ser Ala Met Gly Ile Ser Phe Arg Ser  
 145 150 155 160  
 Phe Cys Ile Ile Leu Pro Asp Val Phe Leu Leu Thr Cys Leu Pro Phe  
 165 170 175  
 Cys Arg Thr Arg Ile Ile Pro His Thr Tyr Cys Glu His Ile Gly Val  
 180 185 190  
 Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe  
 195 200 205  
 Cys Val Pro Ile Met Thr Val Ile Ser Asp Val Ile Leu Ile Ala Val  
 210 215 220  
 Ser Tyr Ala His Ile Leu Cys Ala Val Phe Gly Leu Pro Ser Gln Asp  
 225 230 235 240  
 Ala Cys Gln Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys Val Ile  
 245 250 255  
 Leu Met Phe Tyr Thr Pro Ala Phe Phe Ser Ile Leu Ala His Arg Phe  
 260 265 270  
 Gly His Asn Val Ser Arg Thr Phe His Ile Met Phe Ala Asn Leu Tyr  
 275 280 285  
 Ile Val Ile Pro Pro Ala Leu Asn Pro Met Val Tyr Gly Val Lys Thr  
 290 295 300  
 Lys Gln Ile Arg Asp Lys Val Ile Leu Leu Phe Ser Lys Gly Thr Gly  
 305 310 315 320

&lt;210&gt; 272

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 272

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 attctggtag ggatcccagg cctggagcaa ttccatgtgt ggattggaat tcccttctgt 120  
 atcatctaca ttgtagctgt tgtgggaaac tgcacacctc tctacctcat tgtggtggag 180  
 catagtcttc atgaacccat gttcttcttt ctctccatgc tggccatgac tgacctcatc 240  
 ttgtccacag ctggtgtgcc taaagcactc agtatctttt ggctaggggc tcgcgaaatc 300  
 acattcccag gatgccttac acaaatgttc ttccttcact ataactttgt cctggattca 360  
 gccattctga tggccatggc atttgatcac tatgtagcta tctgttctcc cttgagatat 420  
 accaccatct tgactcccaa gaccatcatc aagagtgcta tgggcatctc ctttcgaagc 480  
 ttctgcatca tcctgcccaga tgtattcttg ctgacatgcc tgcccttctg caggacacgc 540  
 atcatacccc acacatactg tgagcatata ggtggtgccc agctcgccctg tgctgatatc 600  
 tccatcaact tctggtatgg cttttgtgtt cccatcatga cggtcacctc agatgtgatt 660  
 ctcatgtctg tttcctacgc acacatcctc tgtgctgtct ttggccttcc ctcccaagat 720  
 gcctgccaga aagccctcgg cacttgttgt tctcatgtct gtgtcatcct catgttttat 780

acacctgcct tttttcccat cctcgcccat cgctttggac acaatgtctc tcgcaccttc 840  
cacatcatgt ttgccaatct ctacattggt atcccacctg cactcaaccc catgggtttac 900  
ggagtgaaga ccaagcagat cagagataag gttatacttt tgttttctaa gggtacagga 960  
tga 963

<210> 273  
<211> 318  
<212> PRT  
<213> Homo sapiens

<400> 273  
Met Pro Thr Val Asn His Ser Gly Thr Ser His Thr Val Phe His Leu  
1 5 10 15  
Leu Gly Ile Pro Gly Leu Gln Asp Gln His Met Trp Ile Ser Ile Pro  
20 25 30  
Phe Phe Ile Ser Tyr Val Thr Ala Leu Leu Gly Asn Ser Leu Leu Ile  
35 40 45  
Phe Ile Ile Leu Thr Lys Arg Ser Leu His Glu Pro Met Tyr Leu Phe  
50 55 60  
Leu Cys Met Leu Ala Gly Ala Asp Ile Val Leu Ser Thr Cys Thr Ile  
65 70 75 80  
Pro Gln Ala Leu Ala Ile Phe Trp Phe Arg Ala Gly Asp Ile Ser Leu  
85 90 95  
Asp Arg Cys Ile Thr Gln Leu Phe Phe Ile His Ser Thr Phe Ile Ser  
100 105 110  
Glu Ser Gly Ile Leu Leu Val Met Ala Phe Asp His Tyr Ile Ala Ile  
115 120 125  
Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asn Ala Leu Ile Lys  
130 135 140  
Lys Ile Cys Val Thr Val Ser Leu Arg Ser Tyr Gly Thr Ile Phe Pro  
145 150 155 160  
Ile Ile Phe Leu Leu Lys Arg Leu Thr Phe Cys Gln Asn Asn Ile Ile  
165 170 175  
Pro His Thr Phe Cys Glu His Ile Gly Leu Ala Lys Tyr Ala Cys Asn  
180 185 190  
Asp Ile Arg Ile Asn Ile Trp Tyr Gly Phe Ser Ile Leu Met Ser Thr  
195 200 205  
Val Val Leu Asp Val Val Leu Ile Phe Ile Ser Tyr Met Leu Ile Leu  
210 215 220  
His Ala Val Phe His Met Pro Ser Pro Asp Ala Cys His Lys Ala Leu  
225 230 235 240  
Asn Thr Phe Gly Ser His Val Cys Ile Ile Ile Leu Phe Tyr Gly Ser  
245 250 255  
Gly Ile Phe Thr Ile Leu Thr Gln Arg Phe Gly Arg His Ile Pro Pro



260

265

270

Cys Ile His Ile Pro Leu Ala Asn Val Cys Ile Leu Ala Pro Pro Met  
 275 280 285

Leu Asn Pro Ile Ile Tyr Gly Ile Lys Thr Lys Gln Ile Gln Glu Gln  
 290 295 300

Val Val Gln Phe Leu Phe Ile Lys Gln Lys Ile Thr Leu Val  
 305 310 315

<210> 274  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 274  
 atgcctactg taaaccacag tggcactagc cacacagtct tccacttgct gggcatccct 60  
 ggcctacagg accagcacat gtggatttct atcccattct tcatttccta tgtcaccgcc 120  
 cttcttgagg acagcctgct catcttcatt atcctcacia agcgcagcct ccatgaaccc 180  
 atgtacctct tcctctgcat gctggctgga gcagacattg tcctctccac gtgcaccatt 240  
 cctcaggcct tagctatctt ctggttccgt gctggggaca tctccctgga tcgttgcatc 300  
 actcagctct tcttcattca ttccaccttc atctctgagt cagggatctt gctgggtgatg 360  
 gcctttgacc actatatgtc catatgctac ccaactgagg acaccaccat tcttacaat 420  
 gctctgatca agaaaatttg tgtgactgtc tctctgagaa gttatggtac aattttccct 480  
 atcatatttc ttttaaaaag attgactttc tgccagaata atattattcc acacaccttt 540  
 tgtgaacaca ttggcctagc caaatatgca tgtaatgaca ttcgaataaa catttggtat 600  
 gggttttcca ttctaattgc gacggtggtc ttagatggtg tactaatttt tatttcctat 660  
 atgctgattc tccatgctgt ctccacatg ccttctccag atgcttgcca caaagctctc 720  
 aacacatttg gctcccatgt ctgcatcadc atcctctttt atgggtcttg catcttcaca 780  
 atccttacct agaggtttgg acgccacatt ccaccttgta tccacatccc gttgggcta 840  
 gtctgcattc tggctccacc tatgctgaat ccattattt atgggatcaa aaccaagcaa 900  
 atccaggaac aggtggttca gtttttggtt ataaaacaga aaataacttt ggttttaa 957

<210> 275  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 275  
 Met Ser Asn Ala Ser Leu Leu Thr Ala Phe Ile Leu Met Gly Leu Pro  
 1 5 10 15  
 His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val  
 20 25 30  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45  
 Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu  
 65 70 75 80  
 Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95  
 Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe

100	105	110
Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro		
115	120	125
Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala		
130	135	140
Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile		
145	150	155
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr		
165	170	175
Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser		
180	185	190
Ala Ile Glu Thr Val Ile Phe Val Thr Val Gly Ile Val Ala Ser Gly		
195	200	205
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile		
210	215	220
Leu Arg Ile Arg Thr Ser Glu Gly Lys His Arg Ala Phe Gln Thr Cys		
225	230	235
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe		
245	250	255
Ile Tyr Leu Arg Pro Gly Ser Arg Lys Ala Val Asp Gly Val Val Ala		
260	265	270
Val Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr		
275	280	285
Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asp Lys		
290	295	300
Val Ala His Ser Gln Ser Lys		
305	310	

<210> 276  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 276  
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 ctcctcatcc tgctggatg cagggtggat tctcacctcc acaccaccat gtactacttc 180  
 ctcaccaacc tggcgttcat tgacatgtgg ttctccactg tcacgggtgcc caaattgctg 240  
 atgacttttg tgttcccaag tggcagggct atctccttcc acagctgcat ggctcagctc 300  
 tatttctttc acttccatag gggcaccgag tggttctctc acaggggtcat gtcctgtgat 360  
 cgctacctgg ccacacagta cccgctcagg tacaccagca tgatgactgg gcgctcgtgt 420  
 actcttctgg ccaccagcac ttggctcagt ggctctctgc actctgctgt ccaggccata 480  
 ttgactttcc atttgcctta ctgtggaccc aactggatcc agcactattt gtgtgatgca 540  
 ccgccccatc tgaaactggc ctgtgcagac acctcagcca tagagactgt catttttgtg 600  
 actgttggaa tagtggcctc gggctgcttt gtcctgatag tgctgtccta tgtgtccatc 660  
 gtctgttcca tctgctggat ccgcacctca gaggggaagc acagagcctt tcagacctgt 720  
 gcctcccaact gtatcgtggg cctttgcttc tttggccctg gtcttttcat ttacctgagg 780

ccaggctcca ggaaagctgt ggatggagtt gtggccgttt tctacactgt gctgacgccc 840  
 cttctcaacc ctgttggtga caccctgagg aacaaggagg tgaagaaagc tctgttgaag 900  
 ctgaaagaca aagtagcaca ttctcagagc aaatag 936

<210> 277  
 <211> 308  
 <212> PRT  
 <213> Homo sapiens

<400> 277  
 Met Glu Leu Gly Asn Val Thr Arg Val Lys Glu Phe Ile Phe Leu Gly  
   1                  5                  10                  15  
 Leu Thr Gln Ser Gln Asp Gln Ser Leu Val Leu Phe Leu Phe Leu Cys  
                   20                  25                  30  
 Leu Val Tyr Met Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr  
           35                  40                  45  
 Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg  
       50                  55                  60  
 Asn Leu Ala Ile Leu Asp Ile Cys Phe Ser Ser Thr Thr Ala Pro Lys  
   65                  70                  75                  80  
 Val Leu Leu Asp Leu Leu Ser Lys Lys Lys Thr Ile Ser Tyr Thr Ser  
                   85                  90                  95  
 Cys Met Thr Gln Ile Phe Leu Phe His Leu Leu Gly Gly Ala Asp Ile  
           100                  105                  110  
 Phe Ser Leu Ser Val Met Ala Phe Asp Cys Tyr Met Ala Ile Ser Lys  
       115                  120                  125  
 Pro Leu His Tyr Val Thr Ile Met Ser Arg Gly Gln Cys Thr Ala Leu  
   130                  135                  140  
 Ile Ser Ala Ser Trp Met Gly Gly Phe Val His Ser Ile Val Gln Ile  
  145                  150                  155                  160  
 Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
                   165                  170                  175  
 Phe Tyr Cys Asp Val Pro Gln Val Leu Lys Leu Thr Cys Thr Asp Thr  
       180                  185                  190  
 Phe Ala Leu Glu Phe Leu Met Ile Ser Asn Asn Gly Leu Val Thr Thr  
       195                  200                  205  
 Leu Trp Phe Ile Phe Leu Leu Val Ser Tyr Thr Val Ile Leu Met Thr  
   210                  215                  220  
 Leu Arg Ser Gln Ala Gly Gly Gly Arg Arg Lys Ala Ile Ser Thr Cys  
  225                  230                  235                  240  
 Thr Ser Pro His His Cys Gly Asp Pro Ala Phe Cys Ala Leu His Leu  
           245                  250                  255  
 Cys Leu Cys Pro Ala Leu His Cys Pro Pro His Arg Lys Gly His Leu  
       260                  265                  270

Cys His Leu His Cys His Leu Pro Ser Ala Glu Pro Phe Asp Leu His  
 275 280 285

Ser Glu Glu Pro Gly Asn Glu Val Ser His Glu Lys Thr Glu Glu Lys  
 290 295 300

Thr Arg Ala Phe  
 305

<210> 278  
 <211> 927  
 <212> DNA  
 <213> Homo sapiens

<400> 278  
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 caagaccaga gtttgggtctt gtttcttttt ttatgtcttg tgtacatgac gactctgctg 120  
 ggaaacctcc tcatcatggt caccgtgacc tgtgagtctc gccttcacac ccccatgtac 180  
 ttctgtctcc gcaatctagc catccttgac atctgcttct cctccacaac tgctcctaaa 240  
 gtcttgctgg accttctgtc aaagaaaaag accatatact atacaagctg catgacacag 300  
 atatttctct tccacctcct tgggtggggca gacatttttt ctctctctgt gatggcgttt 360  
 gactgctaca tggccatctc caagcccctg cactatgtga ccatcatgag tagagggcaa 420  
 tgcactgccc tcatctctgc ctcttgatg gggggctttg tccactccat cgtgcagatc 480  
 tcctgtttgc tgcctctccc tttctgtgga cccaatgttc ttgacacttt ctactgcat 540  
 gtccccagg tcctcaaaact cacttgcaact gacacttttg ctcttgagtt cttgatgatt 600  
 tccaacaatg gcctgggtcac taccctgtgg tttatcttcc tgcttggtgc ctacacagtc 660  
 atcctaata ga cgtgaggtc tcaggcagga gggggcagga ggaaagccat ctccacttgc 720  
 acctccccc atcactgtgg tgacctgca ttttgtgccc tgcacttatg tctatgcccg 780  
 gcccttcaact gccctcccca cagaaaaggc catctctgtc accttcaactg tcatctcccc 840  
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 actgaagaga agactcgtgc cttctga 927

<210> 279  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 279  
 Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu  
 20 25 30  
 Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu  
 35 40 45  
 Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn  
 65 70 75 80  
 Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly  
 85 90 95  
 Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe  
 100 105 110

Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125  
 Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu  
 130 135 140  
 Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser  
 145 150 155 160  
 Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His  
 165 170 175  
 Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr  
 180 185 190  
 Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser  
 195 200 205  
 Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala  
 210 215 220  
 Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255  
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270  
 Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met  
 290 295 300  
 Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val  
 305 310 315

<210> 280  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 280  
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 ggcaacctgt gcatgaccc gctgacgagg accaattccc acctgcaaac acctatgtat 180  
 ttcttccttg gccacctctc cttttagtag atttgctatt cttccaatgt tactccaaat 240  
 atgctgcaca atttctctc agaacagaag accatctcct acgctggatg cttcacacag 300  
 tgtcttctct tcatcgccct ggtgatcact gagttttaca tccttgcttc aatggcattg 360  
 gatcgctatg tagccatttg cagccctttg cattacagtt ccaggatgtc caagaacatc 420  
 tgtgtctgtc tggctactat cccttacatg tatgggtttc ttagtgggtt ctctcagtca 480  
 ctgctaacct ttcacttate cttctgtggc tcccttgaaa tcaatcattt ctactgcgct 540  
 gatcctcctc ttatcatgct ggccgtgctct gacaccgctg tcaaaaagat ggcaatgttt 600  
 gtagttgcag gctttaatct ctcaagctct ctcttcatca ttcttctgtc ctatcttttc 660  
 atttttcgag cgatcttcag gatccgttct gctgaaggca ggcacaaagc cttttctacg 720  
 tgtgcttccc acctgacaat agtcactttg ttttatggaa ccctcttctg catgtacgta 780  
 aggctccat cagagaagtc tgtagaggag tccaaaataa ctgcagtctt ttatactttt 840

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ttgagcccaa tgctgaaccc attgatctat agcctacgga acacagatgt aatccttgcc 900
atgcaacaaa tgattagggg aaaatccttt cataaaattg cagtttag          948

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<210> 281
<211> 314
<212> PRT
<213> Homo sapiens
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<400> 281

<400> 281  
Met Asp Gln Ile Asn His Thr Asn Val Lys Glu Phe Phe Phe Leu Glu  
1 5 10 15

Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe  
20 25 30

Ala Val Tyr Val Ala Thr Val Leu Gly Asn Ala Leu Ile Val Val Thr  
35 40 45

Ile Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg  
50 55 60

Asn Lys Ser Val Leu Asp Ile Val Phe Ser Ser Ile Thr Val Pro Lys  
65 70 75 80

Phe Leu Val Asp Leu Leu Ser Asp Arg Lys Thr Ile Ser Tyr Asn Asp  
85 90 95

Cys Met Ala Gln Ile Phe Phe Phe His Phe Ala Gly Gly Ala Asp Ile  
100 105 110

Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Ala Lys  
115 120 125

Pro Leu His Tyr Val Thr Met Met Arg Lys Glu Val Trp Val Ala Leu  
130 135 140

Val Val Ala Ser Trp Val Ser Gly Gly Leu His Ser Ile Ile Gln Val  
145 150 155 160

Ile Leu Met Leu Pro Phe Pro Phe Cys Gly Pro Asn Thr Leu Asp Ala  
165 170 175

Phe Tyr Cys Tyr Val Leu Gln Val Val Lys Leu Ala Cys Thr Asp Thr  
180 185 190

Phe Ala Leu Glu Leu Phe Met Ile Ser Asn Asn Gly Leu Val Thr Leu  
195 200 205

Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met  
210 215 220

Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys  
225 230 235 240

Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr  
245 250 255

Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser  
260 265 270

Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
275 280 285

Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg  
290 295 300

Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly  
305 310

<210> 282

<211> 945

<212> DNA

<213> Homo sapiens

<400> 282

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atggaccaga tcaaccacac taatgtgaag gagtttttct tcctggaact tacacgttcc 60
cgagagctgg agtttttctt gtttgtggtc ttctttgctg tgtatgtagc aacagtcctg 120
ggaaatgcac tcattgtggt cactattacc tgtgagtcct gcctacacac tcctatgtac 180
tttctcctgc ggaacaaatc agtcctggac atcgtttttt catctatcac cgtccccaag 240
ttcctgggtg atctttttatc agacaggaaa accatctcct acaatgactg catggcacag 300
atcttttttct tccactttgc tgggtggggca gatatttttt tcctctctgt gatggcctat 360
gacagatacc ttgcaatcgc caagcccctg cactatgtga ccatgatgag gaaagagggtg 420
tgggtggcct tgggtgggtgc ttcttgggtg agtgggtggtt tgcattcaat catccaggta 480
attctgatgc ttccattccc cttctgtggc cccaacacac tggatgcctt ctactgttat 540
gtgctccagg tggtaaaaact ggctgcact gacacctttg ctttggagct tttcatgac 600
tctaacaacg gactggtgac cctgctctgg ttctcctgc tcctgggctc ctacactgtc 660
attctggtga tgctgagatc ccactctggg gaggggcgga acaaggccct ctccacgtgc 720
acgtcccaca tgctggtggt gactcttcac ttctgtcctt gtgtttacat ctactgccgg 780
cccttcatga cgctgcccac ggacacaacc atatccatta ataacacggt cattaccccc 840
atgctgaacc ccatcatcta ttccctgaga aatcaagaga tgaagtcagc catgcagagg 900
ctgcagagga gacttggggc ttccgagagc agaaaatggg ggtga 945
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<210> 283

<211> 311

<212> PRT

<213> Homo sapiens

<220>

<221> MOD\_RES

<222> (253)

<223> Any amino acid

<400> 283

Met Ser Lys Thr Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro  
1 5 10 15

His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val  
20 25 30

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
35 40 45

Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
50 55 60

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
65 70 75 80

Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys

85

90

95

Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
 100 105 110

Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

Ala Asn Glu Met Val Ile Phe Val Asp Ile Gly Leu Val Ala Ser Gly  
 195 200 205

Cys Phe Leu Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

Leu Arg Ile His Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Xaa Cys Val Phe  
 245 250 255

Ile Tyr Leu Arg Pro Gly Ser Arg Asp Val Val Asp Gly Val Val Ala  
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
 290 295 300

Val Ala His Ser Gln Gly Glu  
 305 310

<210> 284

<211> 936

<212> DNA

<213> Homo sapiens

<220>

<221> modified\_base

<222> (756)..(757)

<223> a, t, c, or g

<400> 284

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 ctggacgccc cactctttgg aatcttccctg gtgggtttacg tgctcactgt gctggggaac 120  
 ctctcatcc tgctgggtgat cagggtggat tctcacctcc acacccccat gtactacttc 180  
 ctcaccaacc tgctccttcat tgacatgtgg ttctccactg tcacggtgcc caaaatgctg 240  
 atgaccttgg tgtccccaag cggcagggct atctccttcc acagctgcgt ggctcagctc 300



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tattttttcc acttcctggg gagcaccgag tgtttcctct acacagtcac gtcctatgat 360
cgctacttgg ccaccagtta cccgctcagg tacaccagca tgatgagtgg gagcagatgt 420
gccctcctgg ccaccagcac ttggctcagt ggctctctgc actctgctgt ccagaccata 480
ttgactttcc atttgcccta ctgtggaccc aaccagatcc agcactatct gtgtgatgca 540
ccgcccattc tgaaactggc ctgtgcagac acctcagcca acgagatggg catctttgtg 600
gacattgggc tagtggcctc gggctgcttt ctctgatag tgctgtctta tgtgtccatc 660
gtctgttcca tctgcggtat ccacacctca gaggggaggg acagagcctt tcagacctgt 720
gcctcccact gcatcggtgt cctttgcttt tttgtnnctt gtgttttcat ttacctgaga 780
ccaggctcca gggacgtcgt ggatggagtt gtggccattt tctacactgt gctgacaccc 840
cttctcaacc ctgttgtgta caccctgaga aacaaggagg tgaagaaagc tgtgttgaaa 900
ctgagagaca aagtagcaca ttctcagggg gaataa 936

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<210> 285
<211> 331
<212> PRT
<213> Homo sapiens

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<220>
<221> MOD_RES
<222> (253)
<223> Any amino acid

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<400> 285
Met Cys Trp Ala Met Pro Ser Pro Phe Thr Gly Ser Ser Thr Arg Asn
 1             5             10             15

Met Glu Ser Arg Asn Gln Ser Thr Val Thr Glu Phe Ile Phe Thr Gly
      20             25             30

Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu
      35             40             45

Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala
      50             55             60

Val Arg Leu Asp Thr His Leu Gly Asn Pro Met Tyr Asn Phe Ile Ser
      65             70             75             80

Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys
      85             90             95

Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly
      100            105            110

Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly
      115            120            125

Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn
      130            135            140

Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala His Leu
      145            150            155            160

Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile
      165            170            175

Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln
      180            185            190

Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr

```

195

200

205

Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile  
210 215 220

Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile  
225 230 235 240

Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Xaa Ser Thr Cys  
245 250 255

Ala Gly His Leu Met Val Phe Leu Ile Phe Phe Gly Ser Val Ser Leu  
260 265 270

Met Tyr Leu Arg Phe Ser Asn Thr Tyr Pro Pro Val Leu Asp Thr Ala  
275 280 285

Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile  
290 295 300

Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
305 310 315 320

Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
325 330

&lt;210&gt; 286

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; modified\_base

&lt;222&gt; (757)

&lt;223&gt; a, t, c, or g

&lt;400&gt; 286

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atgtgctggg ctatgccctc tccatattaca ggtagctcta ctagaaatat ggagagcaga 60
aaccaatcaa cagtgaactga atttatcttc actggattcc ctcagcttca ggatggtagt 120
ctcctgtact tctttccttt acttttcatc tatactttta ttatcattga taacttatta 180
atcttctctg ctgtaaggct ggacacccat ctgggcaacc ccatgtataa ttttatcagt 240
atattttcct ttctggagat ctgggtacacc acagccacca ttcccaagat gctctccaac 300
ctcatcagtg aaaagaaggc catctcaatg actggctgca tcttgcagat gtatttcttc 360
cactcacttg aaaactcaga ggggatcttg ctgaccacca tggccattga cagatacgtt 420
gccatctgca accctcttcg ctatcaaatg atcatgaccc cccggctctg tgctcacctc 480
tctgcagggt cctgcctctt cggtttctct atcctgcttc ccgagattgt gatgatttcc 540
aactgcctt tctgtgggcc caaccaaadc catcagatct tctgtgactt ggtccctgtg 600
ctaagcctgg cctgtacaga cacgtccatg attctgattg aggatgtgat tcatgctgtg 660
accatcatca ttaccttctt aatcattgcc ctgtcctatg taagaattgt cactgtgata 720
ttgaggattc cctcttctga agggaggcaa aaggctnttt ctacctgtgc aggccacctc 780
atgggtcttc tgatattctt tggcagtgta tcatcattgt acttgcgttt cagcaacact 840
tatccaccag ttttggacac agccattgca ctgatgttta ctgtacttgc tccattcttc 900
aatcccatca tttatagcct gagaaacaag gacatgaaca atgcaattaa aaaactgttc 960
tgtcttcaaa aagtgttgaa caagcctgga gggttaa 996

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&lt;210&gt; 287

&lt;211&gt; 308

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 287

Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly  
1 5 10 15

Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu  
20 25 30

Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu  
35 40 45

Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln  
65 70 75 80

Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg  
85 90 95

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys  
100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn  
115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu  
130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile  
145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe  
165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser  
180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu  
195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile  
210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys  
225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser  
245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Ser Pro Asp Gln Asp Lys Phe  
260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met  
290 295 300

Leu Lys Arg Thr  
305

<210> 288  
 <211> 927  
 <212> DNA  
 <213> Homo sapiens

<400> 288  
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 cctcaatgga gagacacgtt tttcacatta gtgctgataa tttacctcag cacattgttg 120  
 gggaatggat ttatgatctt tcttattcac tttgacccca acctccacac tccaatctac 180  
 ttcttcctta gtaacctgtc tttcttagac ctttggtatg gaacagcttc catgccccag 240  
 gctttggtgc attgtttctc taccatccc tacctctctt atccccgatg tttggctcaa 300  
 acgagtgtct ccttggcttt ggccacagca gagtgcctcc tactggctgc catggcctat 360  
 gaccgtgtgg ttgctatcag caatcccctg cgttattcag tggttatgaa tggcccagtg 420  
 tgtgtctgct tggttgctac ctcatggggg acatcacttg tgctcactgc catgctcatc 480  
 ctatccctga ggcttcactt ctgtgggggt aatgtcatca accattttgc ctgtgagatt 540  
 ctctccctca ttaagctgac ctgttctgat accagcctca atgaatttat gatcctcatc 600  
 accagtatct tcaccctgct gctaccattt gggtttgctc tcctctccta catacgaatt 660  
 gctatggcta tcataaggat tcgctcactc cagggcaggc tcaaggcctt taccacatgt 720  
 ggctctcacc tgaccgtggg gacaatcttc tatgggtcag ccatctccat gtatatgaaa 780  
 actcagtcca agtcctcccc tgaccaggac aagtttatct cagtgtttta tggagctttg 840  
 acaccatgt tgaacccctt gatatatagc ctgagaaaaa aagatgttaa acgggcaata 900  
 aggaaagtta tgttgaaaag gacatga 927

<210> 289  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
 Met Lys Ala Gly Asn Phe Ser Asp Thr Pro Glu Phe Phe Leu Leu Gly  
 1 5 10 15  
 Leu Ser Gly Asp Pro Glu Leu Gln Pro Ile Leu Phe Met Leu Phe Leu  
 20 25 30  
 Ser Met Tyr Leu Ala Thr Met Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 Val Asn Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60  
 Ile Leu Ser Leu Val Asp Ile Cys Phe Thr Ser Thr Thr Met Pro Lys  
 65 70 75 80  
 Met Leu Val Asn Ile Gln Ala Gln Ala Gln Ser Ile Asn Tyr Thr Gly  
 85 90 95  
 Cys Leu Thr Gln Ile Cys Phe Val Leu Val Phe Val Gly Leu Glu Asn  
 100 105 110  
 Gly Ile Leu Val Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
 115 120 125  
 Pro Leu Arg Tyr Asn Val Ile Met Asn Pro Lys Leu Cys Gly Leu Leu  
 130 135 140  
 Leu Leu Leu Ser Phe Ile Val Ser Val Leu Asp Ala Leu Leu His Thr  
 145 150 155 160

Leu Met Val Leu Gln Leu Thr Phe Cys Ile Asp Leu Glu Ile Pro His  
 165 170 175  
 Phe Phe Cys Glu Leu Ala His Ile Leu Lys Leu Ala Cys Ser Asp Val  
 180 185 190  
 Leu Ile Asn Asn Ile Leu Val Tyr Leu Val Thr Ser Leu Leu Gly Val  
 195 200 205  
 Val Pro Leu Ser Gly Ile Ile Phe Ser Tyr Thr Arg Ile Val Ser Ser  
 210 215 220  
 Val Met Lys Ile Pro Ser Ala Gly Gly Lys Tyr Lys Ala Phe Ser Ile  
 225 230 235 240  
 Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Gly Phe  
 245 250 255  
 Gly Val Tyr Leu Ser Ser Gly Ala Thr His Ser Ser Arg Lys Gly Ala  
 260 265 270  
 Ile Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Leu Lys Ala Leu Arg Lys Leu  
 290 295 300  
 Ile Ser Arg Ile Pro Ser Phe His  
 305 310

<210> 290  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 290  
 atgaaagcag gaaactttctc agacactcca gaattctttc tcttgggatt gtcaggggat 60  
 ccggagctgc agcccatcct cttcatgctg ttcctgtcca tgtacctggc cacaatgctg 120  
 gggaacctgc tcatcatcct ggccgtcaac tctgactccc acctccacac ccccatgtac 180  
 ttctctctct ctatcctgtc cttgggtcgac atctgtttca cctccaccac gatgcccaag 240  
 atgctggtga acatccaggc acaggctcaa tccatcaatt acacaggctg cctcacccaa 300  
 atctgctttg tcttggtttt tgttggattg gaaaatggaa ttctgggtcat gatggcctat 360  
 gatcgatttg tggccatctg tcacccactg aggtacaatg tcatcatgaa ccccaaactc 420  
 tgtgggctgc tgcttctgct gtcttccatc gttagtgtcc tggatgctct gctgcacacg 480  
 ttgatgggtg tacagctgac cttctgcata gacctggaaa ttccccactt tttctgtgaa 540  
 ctagctcata ttctcaagct cgctgttct gatgtcctca tcaataacat cctgggtgat 600  
 ttggtgacca gcctgttagg tgttgttcct ctctctggga tcattttctc ttacacacga 660  
 attgtctcct ctgtcatgaa aattccatca gctggtggaa agtataaagc tttttccatc 720  
 tgccgggtcac atttaatcgt tgtttccttg ttttatggaa cagggttttg ggtgtacctt 780  
 agttctgggg ctacccactc ctccaggaag ggtgcaatag catcagtgat gtataccgtg 840  
 gtcaccccca tgctgaacct actcatttac agcctgagaa acaaggacat gttgaaggct 900  
 ttgaggaaac taatatctag gataccatct ttccattga 939

<210> 291  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 291

Met Gly Pro Arg Asn Gln Thr Ala Val Ser Glu Phe Leu Leu Met Lys  
1 5 10 15

Val Thr Glu Asp Pro Glu Leu Lys Leu Ile Pro Phe Ser Leu Phe Leu  
20 25 30

Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu Leu Ile Leu Leu Ala  
35 40 45

Val Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe  
50 55 60

Asn Leu Ser Phe Thr Asp Ile Cys Leu Thr Thr Thr Thr Val Pro Lys  
65 70 75 80

Ile Leu Val Asn Ile Gln Ala Gln Asn Gln Ser Ile Thr Tyr Thr Gly  
85 90 95

Cys Leu Thr Gln Ile Cys Leu Val Leu Val Phe Ala Gly Leu Glu Ser  
100 105 110

Cys Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125

Pro Leu Arg Tyr Thr Val Leu Met Asn Val His Phe Trp Gly Leu Leu  
130 135 140

Ile Leu Leu Ser Met Phe Met Ser Thr Met Asp Ala Leu Val Gln Ser  
145 150 155 160

Leu Met Val Leu Gln Leu Ser Phe Cys Lys Asn Val Glu Ile Pro Leu  
165 170 175

Phe Phe Cys Glu Val Val Gln Val Ile Lys Leu Ala Cys Ser Asp Thr  
180 185 190

Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ser Ser Val Phe Gly Ala  
195 200 205

Ile Pro Leu Ser Gly Ile Ile Phe Ser Tyr Ser Gln Ile Val Thr Ser  
210 215 220

Val Leu Arg Met Pro Ser Ala Arg Gly Lys Tyr Lys Ala Phe Ser Thr  
225 230 235 240

Cys Gly Cys His Leu Ser Val Phe Ser Leu Phe Tyr Gly Thr Ala Phe  
245 250 255

Gly Val Tyr Ile Ser Ser Ala Val Ala Glu Ser Ser Arg Ile Thr Ala  
260 265 270

Val Ala Ser Val Met Tyr Thr Val Val Pro Gln Met Met Asn Pro Phe  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Met Lys Lys Ala Leu Arg Lys Leu  
290 295 300

Ile Gly Arg Leu Phe Pro Phe  
305 310

<210> 292  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
 atgggaccca gaaaccaaac agctgtttca gaattttcttc tcatgaaagt gacagaggac 60  
 ccagaactga agttaatccc tttcagcctg ttctgttcca tgtacctggt caccatcctg 120  
 gggaacctgc tcattctcct ggctgtcatc tctgactccc acctccacac ccccatgtac 180  
 ttcctttctct ttaatctctc ctttactgac atctgtttta ccacaaccac agtcccaaag 240  
 atcctagtga acatccaagc tcagaatcag agtatcactt acacaggctg cctcaccag 300  
 atctgtccttg tcttggtttt tgctggcttg gaaagttgct ttcttgcatg catggcctac 360  
 gaccgctatg tggccatttg ccacccactg aggtacacag tcctcatgaa tgtccatttc 420  
 tggggcttgc tgattcttct ctccatgttc atgagcacta tggatgccct gggtcagagt 480  
 ctgatgggat tgcagctgtc cttctgcaaa aacggtgaaa tccctttgtt cttctgtgaa 540  
 gtcgttcagg tcatcaagct cgctgtttct gacaccctca tcaacaacat cctcatatat 600  
 tttgcaagta gtgtatttgg tgcaattcct ctctctggaa taattttctc ttattctcaa 660  
 atagtcacct ctgttctgag aatgccatca gcaagaggaa agtataaagc gttttccacc 720  
 tgtggctgtc acctctctgt tttttccttg ttctatggga cagcttttgg ggtgtacatt 780  
 agttctgctg ttgctgagtc ttcccgaatt actgctgtgg cttcagtgat gtacactgtg 840  
 gtccttcaaa tgatgaacct cttcatctac agcctgagaa ataaggagat gaagaaagct 900  
 ttgaggaaac ttattggtag gctgtttcct ttttag 936

<210> 293  
 <211> 345  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
 Met Pro Met Gln Leu Leu Thr Asp Phe Ile Ile Phe Ser Ile Arg  
 1 5 10 15  
 Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys  
 20 25 30  
 Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu  
 35 40 45  
 Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu  
 50 55 60  
 Leu Ile Leu Leu Ala Val Ile Ser Asp Ser His Leu His Thr Pro Met  
 65 70 75 80  
 Tyr Phe Phe Leu Ser Asn Leu Ser Phe Leu Asp Ile Cys Leu Ser Thr  
 85 90 95  
 Thr Thr Ile Pro Lys Met Leu Val Asn Ile Gln Ala Gln Asn Arg Ser  
 100 105 110  
 Ile Thr Tyr Ser Gly Cys Leu Thr Gln Ile Cys Phe Val Leu Phe Phe  
 115 120 125  
 Ala Gly Leu Glu Asn Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
 130 135 140  
 Val Ala Ile Cys His Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg  
 145 150 155 160

Leu Cys Gly Leu Leu Ile Leu Leu Ser Leu Leu Thr Ser Val Val Asn  
 165 170 175  
 Ala Leu Leu Leu Ser Leu Met Val Leu Arg Leu Ser Phe Cys Thr Asp  
 180 185 190  
 Leu Glu Ile Pro Leu Phe Phe Cys Glu Leu Ala Gln Val Ile Gln Leu  
 195 200 205  
 Thr Cys Ser Asp Thr Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ala  
 210 215 220  
 Cys Ile Phe Gly Gly Val Pro Leu Ser Gly Ile Ile Leu Ser Tyr Thr  
 225 230 235 240  
 Gln Ile Thr Ser Cys Val Leu Arg Met Pro Ser Ala Ser Gly Lys His  
 245 250 255  
 Lys Ala Val Ser Thr Cys Gly Ser His Leu Ser Ile Val Leu Leu Phe  
 260 265 270  
 Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser  
 275 280 285  
 Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln  
 290 295 300  
 Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly  
 305 310 315 320  
 Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala  
 325 330 335  
 Ile Cys Phe Gly Phe Arg Phe Leu Glu  
 340 345

<210> 294  
 <211> 1038  
 <212> DNA  
 <213> Homo sapiens

<400> 294  
 atgccgatgc agctgctgct tacagatddd attatctddd ccatcagatt catcatcaac 60  
 agcatggaag cgagaaacca aacagctatt tcaaaattcc ttctcctggg actgatagag 120  
 gatccggaac tgcagcccgt ccttttcagc ctgttcctgt ccatgtactt gggtcaccatc 180  
 ctggggaacc tgctcatcct cttggctgtc atctctgact ctcacctcca ccccccatg 240  
 tacttcttcc tctccaatct ctcttttttg gacatttgtt taagcacaac cacgatccca 300  
 aagatgctgg tgaacatcca agctcagaat cggagcatca cgtactcagg ctgcctcacc 360  
 cagatctgct ttgtcttgtt ttttgctggc ttggaaaatt gtctccttgc agcaatggcc 420  
 tatgaccgct atgtggccat ttgtcacccc cttagataca cagtcatcat gaacccccgc 480  
 ctctgtggcc tgctgattct tctctctctg ttgactagt ttgtgaatgc ccttcttctc 540  
 agcctgatgg tgttgaggct gtccttctgc acagacctgg aaatcccgt cttcttctgt 600  
 gaactggctc aggtcatcca actcacctgt tcagacaccc tcatcaataa catcctgata 660  
 tattttgcag cttgcatatt tgggtggtgt cctctgtctg gaatcatttt gtcttacact 720  
 cagatcacct cctgtgtttt gagaatgcc tcaagcaagt gaaagcaca agcagtttcc 780  
 acctgtgggt ctcacctctc cattgttctc ttgttctatg gggcagggtt gggggtgtac 840  
 attagttctg tggttactga ctcacctagg aagactgcag tggcttcagt gatgtattct 900  
 gtgttccctc aaatgggtgaa cccctttatc tatagtctga ggaataagga catgaaagga 960  
 accttgagga agttcatagg gaggatacct tctcttctgt ggtgtgccat ttgctttgga 1020  
 ttcaggtttc tagagtaa 1038



<210> 295  
<211> 313  
<212> PRT  
<213> Homo sapiens

<400> 295  
Met Glu Pro Arg Asn Gln Thr Ser Ala Ser Gln Phe Ile Leu Leu Gly  
1 5 10 15  
Leu Ser Glu Lys Pro Glu Gln Glu Thr Leu Leu Phe Ser Leu Phe Phe  
20 25 30  
Cys Met Tyr Leu Val Met Val Val Gly Asn Leu Leu Ile Ile Leu Ala  
35 40 45  
Ile Ser Ile Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60  
Asn Leu Ser Leu Val Asp Phe Cys Leu Ala Thr Asn Thr Ile Pro Lys  
65 70 75 80  
Met Leu Val Ser Leu Gln Thr Gly Ser Lys Ala Ile Ser Tyr Pro Cys  
85 90 95  
Cys Leu Ile Gln Met Tyr Phe Phe His Phe Phe Gly Ile Val Asp Ser  
100 105 110  
Val Ile Ile Ala Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
115 120 125  
Pro Leu His Tyr Ala Lys Ile Met Ser Leu Arg Leu Cys Arg Leu Leu  
130 135 140  
Val Gly Ala Leu Trp Ala Phe Ser Cys Phe Ile Ser Leu Thr His Ile  
145 150 155 160  
Leu Leu Met Ala Arg Leu Val Phe Cys Gly Ser His Glu Val Pro His  
165 170 175  
Tyr Phe Cys Asp Leu Thr Pro Ile Leu Arg Leu Ser Cys Thr Asp Thr  
180 185 190  
Ser Val Asn Arg Ile Phe Ile Leu Ile Val Ala Gly Met Val Ile Ala  
195 200 205  
Thr Pro Phe Val Cys Ile Leu Ala Ser Tyr Ala Arg Ile Leu Val Ala  
210 215 220  
Ile Met Lys Val Pro Ser Ala Gly Gly Arg Lys Lys Ala Phe Ser Thr  
225 230 235 240  
Cys Ser Ser His Leu Ser Val Val Ala Leu Phe Tyr Gly Thr Thr Ile  
245 250 255  
Gly Val Tyr Leu Cys Pro Ser Ser Val Leu Thr Thr Val Lys Glu Lys  
260 265 270  
Ala Ser Ala Val Met Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Phe  
275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Leu Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

Val Asn Arg Lys Ile Thr Ser Ser Ser  
 305 310

<210> 296  
 <211> 942  
 <212> DNA  
 <213> Homo sapiens

<400> 296  
 atggaaccaa gaaaccaaac cagtgcacat caattcatcc tcctggggact ctcagaaaaag 60  
 ccagagcagg agacgcttct cttttccctg ttctttctgca tgtacctggt catggctcgtg 120  
 gggaacctgc tcatcatcct ggccatcagc atagactccc acctccacac ccccatgtac 180  
 ttcttcctgg ccaacctgtc cctgggtgat ttctgtctgg ccaccaacac catccctaag 240  
 atgctggtga gccttcaaac cgggagcaag gccatctctt atccctgctg cctgatccag 300  
 atgtacttct tccatttctt tggcatcgtg gacagcgtca taatcgccat gatggcttat 360  
 gaccgggttcg tggccatctg ccacccattg cactacgccca agatcatgag cctacgcctc 420  
 tgtcgccctgc tggctggcgc cctctgggcg ttttccctgct tcactctact cactcacatc 480  
 ctccctgatgg cccgtctcgt tttctgcggc agccatgagg tgcctcacta cttctgcgac 540  
 ctccactcca tcctccgact ttctgtgcac gacacctctg tgaataggat cttcatcctc 600  
 attgtggcag ggatggtgat agccacgccc tttgtctgca tcctggcctc ctatgctcgc 660  
 atccttgtgg ccatcatgaa ggtccctctc gcaggcggca ggaagaaagc cttctccacc 720  
 tgcagctccc acctgtctgt ggttgcctct ttctatggga ccaccattgg cgtctatctg 780  
 tgtccctcct cggctctcac cactgtgaag gagaaagctt ctgcggtgat gtacacagca 840  
 gtcaccccca tgctgaatcc cttcatctac agcttgagga acagagacct gaaaggggct 900  
 ctcaggaagc tggtaacag aaagatcacc tcactcttct ga 942

<210> 297  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
 Met Met Arg Leu Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val  
 1 5 10 15  
 Thr Glu Phe Leu Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly  
 20 25 30  
 Val Leu Phe Ala Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly  
 35 40 45  
 Asn Leu Gly Met Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr  
 50 55 60  
 Pro Met Tyr Phe Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr  
 65 70 75 80  
 Ser Ser Ser Val Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn  
 85 90 95  
 Lys Ala Ile Ser Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly  
 100 105 110  
 Ser Phe Leu Gly Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp  
 115 120 125

Arg Tyr Ala Ala Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser  
130 135 140

Gly Arg Ile Cys Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys  
145 150 155 160

Gly Asn Ala Ala Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys  
165 170 175

Gly Ser Asn Arg Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu  
180 185 190

Lys Leu Ser Cys Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala  
195 200 205

Phe Ser Ser Phe Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser  
210 215 220

Tyr Leu Cys Ile Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly  
225 230 235 240

Arg His Lys Ala Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr  
245 250 255

Ile Phe Phe Gly Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser  
260 265 270

Tyr Ser Met Glu Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile  
275 280 285

Ile Pro Val Leu Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val  
290 295 300

Lys Lys Ala Leu Lys Lys Ile Leu Trp Lys His Ile Leu  
305 310 315

<210> 298

<211> 954

<212> DNA

<213> Homo sapiens

<400> 298

atgatgagac ttatgaaaga ggttcgaggc agaaatcaaa cagaagtaac agaatttctc 60  
ctcttaggac tttccgacaa tccagatcta caaggagtcc tctttgcatt gtttctgttg 120  
atctatatgg caaacatggt gggcaatttg gggatgattg tattgattaa gattgatctc 180  
tgtctccaca ccccatgta tttctttctc agtagcctct cttttgtaga tgcctcttac 240  
tcttcttccg tcaactccaa gatgctggtg aacctcatgg ctgagaataa ggccatttct 300  
tttcatggat gtgctgcccc gttctacttc tttggctcct tctggggac tgagtgcctc 360  
ctgttggcca tgatggcata tgaccgctat gcagccattt ggaaccccct gctctacca 420  
gttctcgtgt ctgggagaat ttgctttttg ctaatagcta cctccttctt agcagggttg 480  
ggaaatgcag ccatacatatc agggatgact tttaggttgt ccttttggtg ttctaataagg 540  
atcaaccatt tctactgtga caccgcgcca ctgctcaaac tctcttgctc tgatacccac 600  
ttcaatggca ttgtgatcat ggcattctca agttttattg tcatcagctg tgttatgatt 660  
gtcctcattt cctacctgtg tatcttcatt gccgtcttga agatgccttc gtttagagggc 720  
aggcacaaaag ccttctccac ctgtgcctct tacctcatgg ctgtcaccat attccttgga 780  
acaatcctct tcatgtactt gcgcctaca tctagctact caatggagca agacaaggtt 840  
gtctctgtct tttatacagt aataatccct gtgctaaatc ccctcatcta tagtttaaaa 900  
aataaggatg taaaaaaggc cctaaagaag atcttatgga aacacatctt gtag 954

<210> 299  
<211> 305  
<212> PRT  
<213> Homo sapiens

<400> 299  
Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe  
1 5 10 15  
Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly  
20 25 30  
Val Tyr Ser Leu Thr Val Val Gly Asn Ser Thr Leu Ile Val Leu Ile  
35 40 45  
Cys Asn Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Thr Gly Asn  
50 55 60  
Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val Tyr Thr Pro Lys Ile  
65 70 75 80  
Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys  
85 90 95  
Leu Cys Gln Phe Phe Phe Ser Ala Gly Leu Ala Tyr Ser Glu Cys Tyr  
100 105 110  
Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro  
115 120 125  
Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val  
130 135 140  
Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys  
145 150 155 160  
Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe  
165 170 175  
Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly  
180 185 190  
Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys  
195 200 205  
Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val  
210 215 220  
Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys  
225 230 235 240  
Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr  
245 250 255  
Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile  
260 265 270  
Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu  
 290 295 300

Pro  
 305

<210> 300  
 <211> 918  
 <212> DNA  
 <213> Homo sapiens

<400> 300  
 atgcagagga gcaatcatac agtgactgag tttataactgc tgggcttcac cacagaccca 60  
 ggaatgcagc tgggcctctt cgtggtgttc ctgggcgtgt actctctcac tgtggtagga 120  
 aatagcacc tcacgtgtt gatctgtaat gactcctgcc tccacacacc catgtatttt 180  
 ttcactggaa atctgtcgtt tctggatctc tgggtattct ctgtctacac cccaaagatc 240  
 ctagtgacct gcacctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc 300  
 ttcttctctg cagggtctggc ctatagttag tgctacctgc tggctgccgt ggcttatgac 360  
 cgctacgtgg ccatctccaa gcccctgctt tatgcccagg ccatgtccat aaagctgtgt 420  
 gcattgctgg tagcagtcctc atattgtggt ggctttatta actcttcaat catcaccaag 480  
 aaaacgtttt cctttaactt ctgccgtgaa aacatcattg atgacttttt ctgtgatttg 540  
 cttcccttgg tggagctggc ctgtggcgag aagggcggct ataaaaattat gatgtacttc 600  
 ctgctggcct ccaatgtcat ctgcccgcga gtgtcatcc tggcctccta cctctttatc 660  
 atcaccagtg tcttgaggat ctcctcctcc aagggtacc tcaaagcctt ctccacatgc 720  
 tcctccacc tgacctctgt cactttatac tatggctcca ttctctacat ctacgtctc 780  
 cccagatcta gctattcttt tgatatggac aaaatagttt ctacatttta cactgtggta 840  
 ttccccatgt tgaatctcat gatctacagc ctaaggaata aggatgtgaa agaggctctg 900  
 aaaaaacttc tcccataa 918

<210> 301  
 <211> 328  
 <212> PRT  
 <213> Homo sapiens

<400> 301  
 Met Phe Leu Thr Glu Arg Asn Thr Thr Ser Glu Ala Thr Phe Thr Leu  
 1 5 10 15  
 Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val  
 20 25 30  
 Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile  
 35 40 45  
 Val Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe  
 50 55 60  
 Leu Asn His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala  
 65 70 75 80  
 Pro Met Met Leu Val Asn Leu Val Val Glu Asp Arg Thr Ile Ser Phe  
 85 90 95  
 Ser Gly Cys Leu Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr  
 100 105 110  
 Glu Leu Ile Leu Phe Ala Val Met Ala Tyr Asp His Phe Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Ile Ser Gln Lys Leu Cys Ala  
 130 135 140  
 Met Leu Val Val Val Leu Tyr Ala Trp Gly Val Ala Cys Ser Leu Thr  
 145 150 155 160  
 Leu Ala Cys Ser Ala Leu Lys Leu Ser Phe His Gly Phe Asn Thr Ile  
 165 170 175  
 Asn His Phe Phe Cys Glu Leu Ser Ser Leu Ile Ser Leu Ser Tyr Pro  
 180 185 190  
 Asp Ser Tyr Leu Ser Gln Leu Leu Leu Phe Thr Val Ala Thr Phe Asn  
 195 200 205  
 Glu Ile Ser Thr Leu Leu Ile Ile Leu Thr Ser Tyr Ala Phe Ile Ile  
 210 215 220  
 Val Thr Thr Leu Lys Met Pro Ser Ala Ser Gly His Arg Lys Val Phe  
 225 230 235 240  
 Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255  
 Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr  
 260 265 270  
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Leu Leu Asn  
 275 280 285  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ile Arg  
 290 295 300  
 Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr  
 305 310 315 320  
 Pro Phe Asn Phe Val Ile Glu Gln  
 325

<210> 302  
 <211> 987  
 <212> DNA  
 <213> Homo sapiens

<400> 302  
 atgtttctga cagagagaaa tacgacatct gaggccacat tcaactctctt gggcttctca 60  
 gattacctgg aactgcaaat tccccctcttc tttgtatttc tggcagtcta cggcttcagt 120  
 gtggtaggga atcttgggat gatagtgatc atcaaaatta acccaaaatt gcataccccc 180  
 atgtattttt tcttcaacca cctctccttt gtggatttct gctattcctc catcattgct 240  
 cccatgatgc tgggtgaacct ggttgtagaa gatagaacca tttcattctc aggatgtttg 300  
 gtgcaattct ttttcttttg cacccttgta gtgactgaat taattctatt tgcggtgatg 360  
 gcctatgacc actttgtggc catttgcaat cctctgctct acacagttgc catctcccag 420  
 aaactctgtg ccatgctggt ggttgtattg tatgcatggg gagtcgcatg ttccctgaca 480  
 ctgcgctgct ctgctttaaa gttatctttt catgggttca acacaatcaa tcatttcttc 540  
 tgtgagttat cctccctgat atcactctct taccctgact cttatctcag ccagttgctt 600  
 cttttcactg ttgccacttt taatgagata agcacactac tcatcattct gacatcttat 660  
 gcattcatca ttgtcaccac cttgaagatg ccttcagcca gtgggcaccg caaagtcctc 720  
 tccacctgtg cctcccacct gactgccatc accatcttcc atggcaccat cctcttcttc 780  
 tactgtgtac ccaactccaa aaactccagg cacacagtca aagtggcctc tgtgttttac 840  
 accgtggtga tccccctggt gaatccccctg atctacagtc tgagaaataa agatgttaag 900

gatgcaatcc gaaaaataat caatacaaaa tatttttcata ttaaacatag gcattgggtat 960  
ccatttaatt ttgttattga acaataa 987

<210> 303  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 303  
Met Ala Val Gly Arg Asn Asn Thr Ile Val Thr Lys Phe Ile Leu Leu  
1 5 10 15  
Gly Leu Ser Asp His Pro Gln Met Lys Ile Phe Leu Phe Met Leu Phe  
20 25 30  
Leu Gly Leu Tyr Leu Leu Thr Leu Ala Trp Asn Leu Ser Leu Ile Ala  
35 40 45  
Leu Ile Lys Met Asp Ser His Leu His Met Pro Met Tyr Phe Phe Leu  
50 55 60  
Ser Asn Leu Ser Phe Leu Asp Ile Cys Tyr Val Ser Ser Thr Ala Pro  
65 70 75 80  
Lys Met Leu Ser Asp Ile Ile Thr Glu Gln Lys Thr Ile Ser Phe Val  
85 90 95  
Gly Cys Ala Thr Gln Tyr Phe Val Phe Cys Gly Met Gly Leu Thr Glu  
100 105 110  
Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys  
115 120 125  
Asn Pro Leu Leu Tyr Thr Val Leu Ile Ser His Thr Leu Cys Leu Lys  
130 135 140  
Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Phe Ile Glu  
145 150 155 160  
Thr Tyr Ser Val Tyr Gln His Asp Phe Cys Gly Pro Tyr Met Ile Asn  
165 170 175  
His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys Ser Asp  
180 185 190  
Thr Phe Thr Ser Glu Val Val Thr Phe Ile Val Ser Val Val Val Gly  
195 200 205  
Ile Val Ser Val Leu Val Val Leu Ile Ser Tyr Gly Tyr Ile Val Ala  
210 215 220  
Ala Val Val Lys Ile Ser Ser Ala Thr Gly Arg Thr Lys Ala Phe Ser  
225 230 235 240  
Thr Cys Ala Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ser Gly  
245 250 255  
Phe Phe Met Tyr Met Arg Pro Ser Ser Ser Tyr Ser Leu Asn Arg Asp  
260 265 270

Lys Val Val Ser Ile Phe Tyr Ala Leu Val Ile Pro Val Val Asn Pro  
 275 280 285

Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Asn Ala Met Arg Lys  
 290 295 300

Ala Met Glu Arg Asp Pro Gly Ile Ser His Gly Gly Pro Phe Ile Phe  
 305 310 315 320

Met Thr Leu Gly

<210> 304  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 304  
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 gcctggaact taagcctcat tgccctcatt aagatggact ctcacctgca catgcccattg 180  
 tacttcttcc tcagtaacct gtccttctctg gacatctgct atgtgtcctc caccgcccct 240  
 aagatgctgt ctgacatcat cacagagcag aaaaccattt cctttgttgg ctgtgccact 300  
 cagtactttg tcttctgtgg gatggggctg actgaatgct ttctcctggc agctatggcc 360  
 tatgaccggg atgctgcaat ctgcaacccc ttgctttaca cagtccctcat atcccataca 420  
 ctttggttaa agatggtggt tggcgccctat gtgggtggat tccttagttc ttctattgaa 480  
 acatactctg tctatcagca tgatttctgt gggccctata tgatcaacca ctttttctgt 540  
 gacctccctc cagtccctggc tctgtcctgc tctgatacct tcaccagcga ggtgggtgacc 600  
 ttcatagtca gtgttgctgt tgggaatagt tctgtgctag tggtcctcat ctcttatggt 660  
 tacattgttg ctgctgttgt gaagatcagc tcagctacag gtaggacaaa ggccttcagc 720  
 acttggtgct ctcacctgac tgctgtgacc ctcttctatg gttctggatt ctctatgtac 780  
 atgcgaccca gttccagcta ctccctaacc agggacaagg tgggtgtccat attctatgcc 840  
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<210> 305  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 305  
 Met Glu Met Glu Asn Cys Thr Arg Val Lys Glu Phe Ile Phe Leu Gly  
 1 5 10 15  
 Leu Thr Gln Asn Arg Glu Val Ser Leu Val Leu Phe Leu Phe Leu Leu  
 20 25 30  
 Leu Val Tyr Val Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr  
 35 40 45  
 Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu His  
 50 55 60  
 Asn Leu Ser Ile Ala Asp Ile Cys Phe Ser Ser Ile Thr Val Pro Lys  
 65 70 75 80  
 Val Leu Val Asp Leu Leu Ser Glu Arg Lys Thr Ile Ser Phe Asn His  
 85 90 95



Cys Phe Thr Gln Met Phe Leu Phe His Leu Ile Gly Gly Val Asp Val  
 100 105 110  
 Phe Ser Leu Ser Val Met Ala Leu Asp Arg Tyr Val Ala Ile Ser Lys  
 115 120 125  
 Pro Leu His Tyr Ala Thr Ile Met Ser Arg Asp His Cys Ile Gly Leu  
 130 135 140  
 Thr Val Ala Ala Trp Leu Gly Gly Phe Val His Ser Ile Val Gln Ile  
 145 150 155 160  
 Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
 165 170 175  
 Phe Tyr Cys Asp Val His Arg Val Leu Lys Leu Ala His Thr Asp Ile  
 180 185 190  
 Phe Ile Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Leu Thr Thr  
 195 200 205  
 Leu Trp Phe Phe Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Ser Leu  
 210 215 220  
 Pro Lys Ser Gln Ala Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys  
 225 230 235 240  
 Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr  
 245 250 255  
 Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Met Asp Lys Ala Ile Ser  
 260 265 270  
 Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Leu Ile Tyr Thr  
 275 280 285  
 Leu Arg Asn His Glu Met Lys Ser Ala Met Arg Arg Leu Lys Arg Arg  
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 Leu Val Pro Ser Asp Arg Lys  
 305 310

<210> 306  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 306  
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 ggaaacctcc tcatcatggg cactgttacc tgtgaatctc gccttcacac gccatgtat 180  
 tttttgctcc ataatttata tattgccgat atctgcttct cttccatcac agtgcccaag 240  
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 gatcgatatg tggccatctc caagcccctg cactatgcga ctatcatgag tagagaccat 420  
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 tccctgttgc tccactccc tttctgcgga cccaatgttc ttgacacttt ctactgtgat 540  
 gtccaccggg tccctcaaact ggcccataca gacattttca tacttgaact actaatgatt 600  
 tccaacaatg gactgctcac cacactgtgg tttttcctgc tcctggtgtc ctacatagtc 660

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cccttcaactg ccctcccat ggataaggcc atctctgtca ccttcaactgt catctcccct 840
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ctgaagagaa gacttgtgcc ttctgataga aaatag 936

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<210> 307  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 307

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Met Ser Ile Thr Lys Ala Trp Asn Ser Ser Ser Val Thr Met Phe Ile
  1          5          10          15

Leu Leu Gly Phe Thr Asp His Pro Glu Leu Gln Ala Leu Leu Phe Val
          20          25          30

Thr Phe Leu Gly Ile Tyr Leu Thr Thr Leu Ala Trp Asn Leu Ala Leu
          35          40          45

Ile Phe Leu Ile Arg Gly Asp Thr His Leu His Thr Pro Met Tyr Phe
          50          55          60

Phe Leu Ser Asn Leu Ser Phe Ile Asp Ile Cys Tyr Ser Ser Ala Val
          65          70          75          80

Ala Pro Asn Met Leu Thr Asp Phe Phe Trp Glu Gln Lys Thr Ile Ser
          85          90          95

Phe Val Gly Cys Ala Ala Gln Phe Phe Phe Phe Val Gly Met Gly Leu
          100          105          110

Ser Glu Cys Leu Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala
          115          120          125

Ile Ser Ser Pro Leu Leu Tyr Pro Thr Ile Met Thr Gln Gly Leu Cys
          130          135          140

Thr Arg Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Leu
          145          150          155          160

Ile Gln Ala Ser Ser Ile Phe Arg Leu His Phe Cys Gly Pro Asn Ile
          165          170          175

Ile Asn His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys
          180          185          190

Ser Asp Thr Phe Leu Ser Gln Val Val Asn Phe Leu Val Val Val Thr
          195          200          205

Val Gly Gly Thr Ser Phe Leu Gln Leu Leu Ile Ser Tyr Gly Tyr Ile
          210          215          220

Val Ser Ala Val Leu Lys Ile Pro Ser Ala Glu Gly Arg Trp Lys Ala
          225          230          235          240

Cys Asn Thr Cys Ala Ser His Leu Met Val Val Thr Leu Leu Phe Gly
          245          250          255

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Thr Ala Leu Phe Val Tyr Leu Arg Pro Ser Ser Ser Tyr Leu Leu Gly  
260 265 270

Arg Asp Lys Val Val Ser Val Phe Tyr Ser Leu Val Ile Pro Met Leu  
275 280 285

Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu  
290 295 300

Trp Lys Val Leu Glu Arg Lys Lys Val Phe Ser  
305 310 315

<210> 308

<211> 948

<212> DNA

<213> Homo sapiens

<400> 308

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gctgctcagt tttttttctt tgtcggcatg ggtctgtctg agtgccctct cctgactgct 360
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<210> 309

<211> 311

<212> PRT

<213> Homo sapiens

<400> 309

Met Glu Lys Ile Asn Asn Val Thr Glu Phe Ile Phe Trp Gly Leu Ser  
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Gln Ser Pro Glu Ile Glu Lys Val Cys Phe Val Val Phe Ser Phe Phe  
20 25 30

Tyr Ile Ile Ile Leu Leu Gly Asn Leu Leu Ile Met Leu Thr Val Cys  
35 40 45

Leu Ser Asn Leu Phe Lys Ser Pro Met Tyr Phe Phe Leu Ser Phe Leu  
50 55 60

Ser Phe Val Asp Ile Cys Tyr Ser Ser Val Thr Ala Pro Lys Met Ile  
65 70 75 80

Val Asp Leu Leu Ala Lys Asp Lys Thr Ile Ser Tyr Val Gly Cys Met  
85 90 95

Leu Gln Leu Leu Gly Val His Phe Phe Gly Cys Thr Glu Ile Phe Ile  
100 105 110

Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125

His Tyr Met Thr Ile Met Asn Arg Glu Thr Cys Asn Lys Met Leu Leu  
130 135 140

Gly Thr Trp Val Gly Gly Phe Leu His Ser Ile Ile Gln Val Ala Leu  
145 150 155 160

Val Val Gln Leu Pro Phe Cys Gly Pro Asn Glu Ile Asp His Tyr Phe  
165 170 175

Cys Asp Val His Pro Val Leu Lys Leu Ala Cys Thr Glu Thr Tyr Ile  
180 185 190

Val Gly Val Val Val Thr Ala Asn Ser Gly Thr Ile Ala Leu Gly Ser  
195 200 205

Phe Val Ile Leu Leu Ile Ser Tyr Ser Ile Ile Leu Val Ser Leu Arg  
210 215 220

Lys Gln Ser Ala Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Gly Ser  
225 230 235 240

His Ile Ala Met Val Val Ile Phe Phe Gly Pro Cys Thr Phe Met Tyr  
245 250 255

Met Arg Pro Asp Thr Thr Phe Ser Glu Asp Lys Met Val Ala Val Phe  
260 265 270

Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
275 280 285

Asn Ala Glu Val Lys Asn Ala Met Lys Lys Leu Trp Gly Arg Asn Val  
290 295 300

Phe Leu Glu Ala Lys Gly Lys  
305 310

<210> 310

<211> 936

<212> DNA

<213> Homo sapiens

<400> 310

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ctctcatca tgcctgacagt ttgcctgagc aacctgttta agtcacccat gtatttcttt 180  
ctcagcttct tgtcttttgt ggacatttgt tactcttcag tcacagctcc caagatgatt 240  
gttgacctgt tagcaaagga caaaaccatc tcctatgtgg ggtgcatgtt gcaactgctt 300  
ggagtacatt tctttggttg cactgagatc ttcatcctta ctgtaatggc ctatgatcgt 360  
tatgtggcta tctgtaaacc cctacattat atgaccatca tgaaccggga gacatgcaat 420  
aaaatgttat tagggacgtg ggtaggtggg ttcttacact ccattatcca agtggctctg 480  
gtagtccaac tacccttttg tggaccaat gagatagatc actacttttg tgatgttcac 540  
cctgtgttga aacttgctg cacagaaaca tacattgttg gtgttgttgt gacagccaac 600  
agtgggtacca ttgctctggg gagttttgtt atcttgctaa tctcctacag catcatccta 660  
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cacattgccca tggctggttat ctttttcgggc cctgtactt ttatgtacat gcgcacctgat 780  
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<210> 311  
<211> 310  
<212> PRT  
<213> Homo sapiens

<400> 311  
Met Met Asp Asn His Ser Ser Ala Thr Glu Phe His Leu Leu Gly Phe  
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Pro Gly Ser Gln Gly Leu His His Ile Leu Phe Ala Ile Phe Phe Phe  
20 25 30  
Phe Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Val Ile Val  
35 40 45  
Cys Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His  
50 55 60  
Leu Ser Thr Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Met Met  
65 70 75 80  
Leu Trp Gly Leu Leu Phe Leu Gly Cys Arg Gln Tyr Leu Ser Leu His  
85 90 95  
Val Ser Leu Asn Phe Ser Cys Gly Thr Met Glu Phe Ala Leu Leu Gly  
100 105 110  
Val Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn Pro Leu Arg Tyr  
115 120 125  
Asn Ile Ile Met Asn Ser Ser Thr Cys Ile Trp Val Val Ile Val Ser  
130 135 140  
Trp Val Phe Gly Phe Leu Ser Glu Ile Trp Pro Ile Tyr Ala Thr Phe  
145 150 155 160  
Gln Phe Thr Phe Arg Lys Ser Asn Ser Leu Asp His Phe Tyr Cys Asp  
165 170 175  
Arg Gly Gln Leu Leu Lys Leu Ser Cys Asp Asn Thr Leu Leu Thr Glu  
180 185 190  
Phe Ile Leu Phe Leu Met Ala Val Phe Ile Leu Ile Gly Ser Leu Ile  
195 200 205  
Pro Thr Ile Val Ser Tyr Thr Tyr Ile Ile Ser Thr Ile Leu Lys Ile  
210 215 220  
Pro Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser Thr Phe Ala Ser His  
225 230 235 240  
Phe Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu Phe Leu Tyr Val  
245 250 255  
Lys Pro Lys Gln Thr Gln Gly Val Glu Tyr Asn Lys Ile Val Ser Leu

260

265

270

Leu Val Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Phe Thr Leu  
 275 280 285

Arg Asn Asp Lys Val Lys Glu Ala Leu Arg Asp Gly Met Lys Arg Cys  
 290 295 300

Cys Gln Leu Leu Lys Asp  
 305 310

&lt;210&gt; 312

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 312

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 aacacgggtca tcattgtgat tgtctgtgtg gataaacgtc tgcagtcccc catgtatttc 180  
 ttcttcagcc acctctctac cctggagatc ctgggtcacia ccataattgt ccccatgatg 240  
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 gctgtgtgta accctttgag gtacaacatc attatgaaca gcagtacctg tatttgggtg 420  
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 cagtttacct tccgcaaata aaattcatta gaccattttt actgtgaccg agggcaattg 540  
 ctcaaactgt cctgcgataa cactcttctc acagagttaa tccttttctt aatggctgtt 600  
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 atcctcaaga tcccgtcagc ctctggccgg aggaaagcct tctccacttt tgccctccac 720  
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 acacagggag ttgagtacaa taagatagtt tccctgttgg tttctgtgtt aacccttc 840  
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&lt;210&gt; 313

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 313

Met Ser Phe Thr Ser Leu Ile Pro Ser Leu Cys Phe Ser Leu Thr Leu  
 1 5 10 15

Pro Phe Leu Phe Cys Tyr Leu Ser Leu Leu Pro Phe Leu Ser Ala Phe  
 20 25 30

Leu Phe Ile Thr Arg Trp Leu Leu Ala Phe Leu Ser Leu Phe Ser Val  
 35 40 45

Ser Val Pro Val Ser Ser Val Ser Ser Ser Met Val Leu Cys Leu Tyr  
 50 55 60

Leu Ser Val Ser Ala Ser Pro Ser Val Phe Cys Phe Ser Cys Met Gln  
 65 70 75 80

Gly Pro Ile Leu Trp Ile Met Ala Asn Leu Ser Gln Pro Ser Glu Phe  
 85 90 95

Val Leu Leu Gly Phe Ser Ser Phe Gly Glu Leu Gln Ala Leu Leu Tyr

100					105					110					
Gly	Pro	Phe	Leu	Met	Leu	Tyr	Leu	Leu	Ala	Phe	Met	Gly	Asn	Thr	Ile
		115					120					125			
Ile	Ile	Val	Met	Val	Ile	Ala	Asp	Thr	His	Leu	His	Thr	Pro	Met	Tyr
		130				135					140				
Phe	Phe	Leu	Gly	Asn	Phe	Ser	Leu	Leu	Glu	Ile	Leu	Val	Thr	Met	Thr
145					150					155					160
Ala	Val	Pro	Arg	Met	Leu	Ser	Asp	Leu	Leu	Val	Pro	His	Lys	Val	Ile
				165					170					175	
Thr	Phe	Thr	Gly	Cys	Met	Val	Gln	Phe	Tyr	Phe	His	Phe	Ser	Leu	Gly
			180					185					190		
Ser	Thr	Ser	Phe	Leu	Ile	Leu	Thr	Asp	Met	Ala	Leu	Asp	Arg	Phe	Val
		195					200					205			
Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Gly	Thr	Leu	Met	Ser	Arg	Ala	Met
	210					215					220				
Cys	Val	Gln	Leu	Ala	Gly	Ala	Ala	Trp	Ala	Ala	Pro	Phe	Leu	Ala	Met
225					230					235					240
Val	Pro	Thr	Val	Leu	Ser	Arg	Ala	His	Leu	Asp	Tyr	Cys	His	Gly	Asp
				245					250					255	
Val	Ile	Asn	His	Phe	Phe	Cys	Asp	Asn	Glu	Pro	Leu	Leu	Gln	Leu	Ser
		260						265					270		
Cys	Ser	Asp	Thr	Arg	Leu	Leu	Glu	Phe	Trp	Asp	Phe	Leu	Met	Ala	Leu
		275					280					285			
Thr	Phe	Val	Leu	Ser	Ser	Phe	Leu	Val	Thr	Leu	Ile	Ser	Tyr	Gly	Tyr
		290				295					300				
Ile	Val	Thr	Thr	Val	Leu	Arg	Ile	Pro	Ser	Ala	Ser	Ser	Cys	Gln	Lys
305					310					315					320
Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	Leu	Thr	Leu	Val	Phe	Ile	Gly	Tyr
				325					330					335	
Ser	Ser	Thr	Ile	Phe	Leu	Tyr	Val	Arg	Pro	Gly	Lys	Ala	His	Ser	Val
			340					345					350		
Gln	Val	Arg	Lys	Val	Val	Ala	Leu	Val	Thr	Ser	Val	Leu	Thr	Pro	Phe
		355					360					365			
Leu	Asn	Pro	Phe	Ile	Leu	Thr	Phe	Cys	Asn	Gln	Thr	Val	Lys	Thr	Val
	370					375					380				
Leu	Gln	Gly	Gln	Met	Gln	Arg	Leu	Lys	Gly	Leu	Cys	Lys	Ala	Gln	
385					390					395					

<210> 314  
 <211> 1200  
 <212> DNA  
 <213> Homo sapiens

<400> 314

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gtgacttcag ttctcacccc ctttctcaat ccctttatcc ttaccttctg caatcagaca 1140
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<210> 315

<211> 292

<212> PRT

<213> Homo sapiens

<400> 315

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Met Val Gly Asn Leu Leu Ile Trp Val Thr Thr Ile Gly Ser Pro Ser
  1              5              10              15

Leu Gly Ser Leu Met Tyr Phe Phe Leu Ala Tyr Leu Ser Leu Met Asp
      20              25              30

Ala Ile Tyr Ser Thr Ala Met Ser Pro Lys Leu Met Ile Asp Leu Leu
      35              40              45

Cys Asp Lys Ile Ala Ile Ser Leu Ser Ala Cys Met Gly Gln Leu Phe
      50              55              60

Ile Glu His Leu Leu Gly Gly Ala Glu Val Phe Leu Leu Val Val Met
      65              70              75              80

Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro Leu His Tyr Leu Asn
      85              90              95

Ile Met Asn Arg Leu Val Cys Ile Leu Leu Leu Val Val Ala Met Ile
      100             105             110

Gly Gly Phe Val His Ser Val Val Gln Ile Val Phe Leu Tyr Ser Leu
      115             120             125

Pro Ile Cys Gly Pro Asn Val Ile Asp His Ser Val Cys Asp Met Tyr
      130             135             140

Pro Leu Leu Glu Leu Leu Cys Leu Asp Thr Tyr Phe Ile Gly Leu Thr
      145             150             155             160

Val Val Ala Asn Gly Gly Ile Ile Cys Met Val Ile Phe Thr Phe Leu
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165

170

175

Leu Ile Ser Cys Gly Val Ile Leu Asn Phe Leu Lys Thr Tyr Ser Gln  
180 185 190

Glu Glu Arg His Lys Ala Leu Pro Thr Cys Ile Ser His Ile Ile Val  
195 200 205

Val Ala Leu Val Phe Val Pro Cys Ile Phe Met Tyr Val Arg Pro Val  
210 215 220

Ser Asn Phe Pro Phe Asp Lys Leu Met Thr Val Phe Tyr Ser Ile Ile  
225 230 235 240

Thr Leu Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Gln Ser Glu Met  
245 250 255

Lys Asn Ala Met Lys Asn Leu Trp Cys Glu Lys Leu Ser Ile Val Arg  
260 265 270

Lys Arg Val Ser Pro Thr Leu Asn Ile Phe Ile Pro Ser Ser Lys Ala  
275 280 285

Thr Asn Arg Arg  
290

&lt;210&gt; 316

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 316

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atggtgggaa acctcctcat ttgggtgact actattggca gcccctcctt gggctcccta 60
atgtacttct tccttgccca cttgtcactt atggatgccca tatattccac tgccatgtca 120
cccaaattga tgatagactt actctgtgat aaaatcgcta tttccttgct agcttgcattg 180
ggtcagctct tcatagaaca cttacttggt ggtgcagagg tcttcctttt ggtgggtgatg 240
gcctatgatc gctatgtggc tatctctaag ccgctgcact atttgaacat catgaatcga 300
ctgggttgca tccttctggt ggtgggtggcc atgattggag gttttgtgca ctctgtgggt 360
caaattgtct ttctgtacag tctaccaatc tgtggcccca atgttattga ccactctgtc 420
tgtgacatgt acccattggt ggaactggtg tgccttgaca cctactttat aggactcact 480
gtgggttgcca atgggtggaat aatttgtatg gtcactttta cctttctgct aatctcctgt 540
ggagtcattcc taaacttcct taaaacttac agtcaggaag agaggcataa agccctgcct 600
acctgcatct cccacatcat tgtgggtgccc ctctgtttttg ttccctgtat ttttatgtat 660
gttagaccgg tttccaactt tccctttgat aaattaatga ctgtgtttta ttcaattatc 720
acactcatgt tgaatccttt aatatactcg ttgagacaat cagagatgaa aaatgctatg 780
aaaaatctct ggtgtgaaaa gttaagtata gttagaaaaa gagtatctcc cacactgaac 840
atattttattc ctagttctaa ggcaacaaat aggcggtaa 879

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&lt;210&gt; 317

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 317

Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe  
1 5 10 15

Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu  
20 25 30

Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly  
 35 40 45  
 Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met  
 50 55 60  
 Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr  
 65 70 75 80  
 Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser  
 85 90 95  
 Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu  
 100 105 110  
 Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala  
 115 120 125  
 Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala  
 130 135 140  
 Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile  
 145 150 155 160  
 Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala  
 165 170 175  
 Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu  
 180 185 190  
 Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser  
 195 200 205  
 Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly  
 210 215 220  
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala  
 225 230 235 240  
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe  
 245 250 255  
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Ala His Arg Phe Gly His His  
 260 265 270  
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu  
 275 280 285  
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln  
 290 295 300  
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu  
 305 310 315 320

<210> 318  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

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<400> 318
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ctgctggccc tgctgggcaa tggagcactg ccggcagtgg tgtggataga ctccacactg 180
caccagccca tgtttctact gttggccatc ctggcagcca cagacctggg cttagccaca 240
tctatagccc caggggttgct ggctgtgctg tggcttgggc cccgatctgt gccatatgct 300
gtgtgcctgg tccagatggt ctttgtacat gcactgactg ccatggaatc aggtgtgctt 360
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gtcaccaaag cctgtgtggg ttatgcagcc ttggccctgg cactgaaagc tgtggctatt 480
gttgtagcct tcccactgct ggtggcaaag tttgagcact tccaagccaa gaccataggc 540
catacctatt gtgcacacat ggcagtggta gaactgggtg tgggtaacac acaggccacc 600
aacttatatg gtctggcact ttcactggcc atctcaggta tggatattct ggggtatcact 660
ggctcctatg gactcattgc ccatgctgtg ctgcagctac ctaccggga ggccatgcc 720
aaggcccttg gtacatgtag ttctcacatc tgtgtcattc tggccttcta catacctggg 780
ctcttctcct acctcgca caagcttgggt catcacactg tcccaaagcc tgtgcacatc 840
cttctctcca acatctactt gctgctgcca cctgccctca accccctcat ctatggggcc 900
cgcaccaagc agatcagaga ccgactcctg gaaaccttca cattcagaaa aagcccgttg 960
taa

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<210> 319
<211> 323
<212> PRT
<213> Homo sapiens

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<400> 319
Met Ser His Thr Asn Val Thr Ile Phe His Pro Ala Val Phe Val Leu
  1             5             10             15

Pro Gly Ile Pro Gly Leu Glu Ala Tyr His Ile Trp Leu Ser Ile Pro
          20             25             30

Leu Cys Leu Ile Tyr Ile Thr Ala Val Leu Gly Asn Ser Ile Leu Ile
          35             40             45

Val Val Ile Val Met Glu Arg Asn Leu His Val Pro Met Tyr Phe Phe
          50             55             60

Leu Ser Met Leu Ala Val Met Asp Ile Leu Leu Ser Thr Thr Thr Val
          65             70             75             80

Pro Lys Ala Leu Ala Ile Phe Trp Leu Gln Ala His Asn Ile Ala Phe
          85             90             95

Asp Ala Cys Val Thr Gln Gly Phe Phe Val His Met Met Phe Val Gly
          100            105            110

Glu Ser Ala Ile Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile
          115            120            125

Cys Ala Pro Leu Arg Tyr Thr Thr Val Leu Thr Trp Pro Val Val Gly
          130            135            140

Arg Ile Ala Leu Ala Val Ile Thr Arg Ser Phe Cys Ile Ile Phe Pro
          145            150            155            160

Val Ile Phe Leu Leu Lys Arg Leu Pro Phe Cys Leu Thr Asn Ile Val
          165            170            175

Pro His Ser Tyr Cys Glu His Ile Gly Val Ala Arg Leu Ala Cys Ala

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180	185	190
Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe Ser Val Pro Ile Val Met		
195	200	205
Val Ile Leu Asp Val Ile Leu Ile Ala Val Ser Tyr Ser Leu Ile Leu		
210	215	220
Arg Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His Lys Ala Leu		
225	230	235
Ser Thr Cys Gly Ser His Leu Cys Val Ile Leu Met Phe Tyr Val Pro		
245	250	255
Ser Phe Phe Thr Leu Leu Thr His His Phe Gly Arg Asn Ile Pro Gln		
260	265	270
His Val His Ile Leu Leu Ala Asn Leu Tyr Val Ala Val Pro Pro Met		
275	280	285
Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gly		
290	295	300
Val Ala His Arg Phe Phe Asp Ile Lys Thr Trp Cys Cys Thr Ser Pro		
305	310	315
320		
Leu Gly Ser		

<210> 320  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 320  
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 gtcctgggaa acagcaccct gatagtgggt attgtcatgg aacgtaacct tcatgtgccc 180  
 atgtatttct tcctctcaat gctggccgctc atggacatcc tgctgtctac caccactgtg 240  
 cccaaggccc tagccatctt ttggcttcaa gcacataaca ttgcttttga tgctgtgtgc 300  
 acccaaggct tccttgtcca tatgatgttt gtgggggagc cagctatcct gttagccatg 360  
 gcctttgatc gctttgtggc catttgtgcc cactgagat atacaacagt gctaacatgg 420  
 cctgttgtgg ggaggattgc tctggccgctc atcacccgaa gcttctgcat catcttccca 480  
 gtcataattct tgctgaagcg gctgcccttc tgccctaacca acattgttcc tcaactctac 540  
 tgtgagcata ttggagtggc tcgttttagcc tgtgctgaca tcaactgttaa catttggtat 600  
 ggcttctcag tgcccattgt catggctatc ttggatgtta tcctcatcgc tgtgtcttac 660  
 tcaactgatcc tccgagcagt gtttcgtttg cctcccagg atgctcggca caaggccctc 720  
 agcacttgtg gctcccacct ctgtgtcacc cttatgtttt atgttccatc cttctttacc 780  
 ttattgaccg atcatttttg gcgtaatat cctcaacatg tccatatctt gctggccaat 840  
 ctttatgtgg cagtgcacc aatgctgaac cccattgtct atgggtgtgaa gactaagcag 900  
 atacgtgagg gtgtagccca ccggttcttt gacatcaaga cttgggtgtg tacctcccct 960  
 ctgggctcat ga 972

<210> 321  
 <211> 345  
 <212> PRT  
 <213> Homo sapiens

<400> 321

Met His Phe Leu Ser Gln Asn Asp Leu Asn Ile Asn Leu Ile Pro His  
 1 5 10 15  
 Leu Cys Leu His Arg His Ser Val Ile Ala Gly Ala Phe Thr Ile His  
 20 25 30  
 Arg His Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr  
 35 40 45  
 Gly Phe Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu  
 50 55 60  
 Leu Phe Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn  
 65 70 75 80  
 Gly Ser Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro  
 85 90 95  
 Met Tyr Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val  
 100 105 110  
 Thr Ser Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys  
 115 120 125  
 Ile Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser  
 130 135 140  
 Leu Gly Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg  
 145 150 155 160  
 Tyr Leu Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg  
 165 170 175  
 Arg Leu Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile  
 180 185 190  
 Trp Phe Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly  
 195 200 205  
 Ser Arg Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr  
 210 215 220  
 Leu Thr Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu  
 225 230 235 240  
 Ser Pro Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr  
 245 250 255  
 Ala Leu Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg  
 260 265 270  
 Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu  
 275 280 285  
 Phe Tyr Gly Ser Val Leu Val Met Tyr Gly Ser Pro Pro Ser Lys Asn  
 290 295 300  
 Glu Ala Gly Lys Gln Lys Thr Val Thr Leu Phe Tyr Ser Val Val Thr  
 305 310 315 320  
 Pro Leu Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Lys Asp Met Arg

Lys Ala Leu Lys Lys Phe Trp Gly Thr  
340 345

<210> 322  
<211> 1038  
<212> DNA  
<213> Homo sapiens

<400> 322  
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cgtcatttcag taattgctgg tgcttttaca attcacaggc acatgaaaat cttcaacagc 120  
cccagcaact ccagcacctt cactggcttc atcctcctgg gcttcccttg cccagggag 180  
gggcagatcc tcctctttgt gctcttcaact gttgtttacc tcctgaccct catgggcaat 240  
ggttccatca tctgtgctgt gcactgggat cagagactcc acgcccccat gtacatcctg 300  
ctcgccaact tctcttctt ggagatatgt tatgtcacct ccacagtccc cagcatgctg 360  
gccaacttcc tctctgacac caagatcatc tcgttctctg gctgcttcct ccagttctac 420  
tttttcttct ccttgggctc tacagaatgc tttttcctgg cagttatggc atttgatcga 480  
taccttgcca tctgtcggcc tctacgctat ccaaccatta tgaccagacg tctctgtacc 540  
aatcttgctg tcaattgctg ggtacttggg ttcactctgg tcttgattcc tatcgtcaac 600  
atctcccaaa tgccttctg tggatctagg attattgacc acttcctatg tgaccagct 660  
cctcttctaa ctctcacttg caaaaaaggg cctgtgatag agcttgtctt ttctgtctta 720  
agtcctctgc ctgtctttat gctctttctc ttcattgtgg ggtcctatgc tctggctgtg 780  
agagctgtgt tgagggtccc ttcagcagct gggagaagaa aggccttctc cacctgtggg 840  
tctcacctgg ctgtggtttc actgttctac ggctcagtac tggatcatgta tgggagccca 900  
ccatctaaga atgaagctgg aaagcagaag actgtgactc tgttttatc tgttggtacc 960  
ccactgctta accctgtgat atatagtctt aggaacaaag atatgagaaa agctctgaag 1020  
aaattttggg gaacataa 1038

<210> 323  
<211> 330  
<212> PRT  
<213> Homo sapiens

<400> 323  
Met Phe Phe Ile Ile His Ser Leu Val Thr Ser Val Phe Leu Thr Ala  
1 5 10 15  
Leu Gly Pro Gln Asn Arg Thr Met His Phe Val Thr Glu Phe Val Leu  
20 25 30  
Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe  
35 40 45  
Ile Leu Val Leu Tyr Leu Leu Thr Leu Leu Gly Asn Gly Ala Ile Val  
50 55 60  
Cys Ala Val Lys Leu Asp Arg Arg Leu His Thr Pro Met Tyr Ile Leu  
65 70 75 80  
Leu Gly Asn Phe Ala Phe Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val  
85 90 95  
Pro Asn Met Leu Val Asn Ile Leu Ser Glu Ile Lys Thr Ile Ser Phe  
100 105 110  
Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr  
115 120 125

Glu Cys Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile  
 130 135 140  
 Cys Arg Pro Leu His Tyr Pro Ser Ile Met Thr Gly Lys Phe Cys Ile  
 145 150 155 160  
 Ile Leu Val Cys Val Cys Trp Val Gly Gly Phe Leu Cys Tyr Pro Val  
 165 170 175  
 Pro Ile Val Leu Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile  
 180 185 190  
 Asp His Leu Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile  
 195 200 205  
 Ser Ala Pro Ser Thr Glu Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile  
 210 215 220  
 Ile Phe Gly Pro Phe Leu Ser Ile Leu Gly Ser Tyr Thr Leu Val Ile  
 225 230 235 240  
 Arg Ala Val Leu Cys Ile Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe  
 245 250 255  
 Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr  
 260 265 270  
 Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met  
 275 280 285  
 Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn  
 290 295 300  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys  
 305 310 315 320  
 Arg Val Leu Gly Leu Thr Val Ser Gln Asn  
 325 330

<210> 324  
 <211> 993  
 <212> DNA  
 <213> Homo sapiens

<400> 324  
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 aacagaacaa tgcattttgt gactgagttt gtcctcctgg gtttccatgg tcaaagggag 120  
 atgcagagct gcttcttctc attcatcctg gttctctatc tcctgacact gctaggggaat 180  
 ggagctattg tctgtgcagt gaaattggac aggcggctcc acacacccat gtacatcctt 240  
 ctgggaaact ttgcctttct agagatctgg tacattttcct ccactgtccc aaacatgcta 300  
 gtcaatatcc tctctgagat taaaaccatc tccttctctg gttgcttctt gcaattctat 360  
 ttcttttttt cactgggtac aacagagtgt ttctttttat cagttatggc ttatgatcgg 420  
 tacctggcca tctgtcgtcc attacactac ccctccatca tgactgggaa gttctgtata 480  
 attctgggtc gtgtatgctg ggtaggcgga tttctctgct atccagtcce tattgttctt 540  
 atctcccaac ttcccttctg tgggcccac atcattgacc acttggtgtg tgaccaggc 600  
 ccattgtttg cactggcctg catctctgct ccttccactg agcttatctg ttacaccttc 660  
 aactcgatga ttatcttttg gcccttcctc tccatcttgg gatcttacac tctgggtcac 720  
 agagctgtgc tttgtattcc ctctgggtgc ggtcgaacta aagctttctc cacatgtggg 780  
 tcccacctaa tggtggtgtc tctattctat ggaaccctta tggtgatgta tgtgagccca 840

acatcagggga acccagcagg aatgcagaag atcatcactc tgggtatacac agcaatgact 900  
ccattcttaa atccccttat ctatagtctt cgaaacaaag acatgaaaga tgctctaaag 960  
agagtcctgg ggtaaacagt tagcctaaaac tga 993

<210> 325  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 325  
Met Ser Phe Phe Phe Val Asp Leu Arg Pro Met Asn Arg Ser Ala Thr  
1 5 10 15  
His Ile Val Thr Glu Phe Ile Leu Leu Gly Phe Pro Gly Cys Trp Lys  
20 25 30  
Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu Val Ile Tyr Val Leu Thr  
35 40 45  
Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala Val Arg Cys Asn Pro Leu  
50 55 60  
Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ala Phe Leu Glu  
65 70 75 80  
Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Met Leu Val Asn Ile Leu  
85 90 95  
Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr  
100 105 110  
Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met  
115 120 125  
Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Gln Tyr Pro Ala  
130 135 140  
Ile Met Thr Val Arg Phe Cys Gly Lys Leu Val Ser Phe Cys Trp Leu  
145 150 155 160  
Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Tyr Ile Ser Gln Leu  
165 170 175  
Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp  
180 185 190  
Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Cys Ile  
195 200 205  
Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe Phe Thr Ser Met Tyr Ile  
210 215 220  
Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala Val Phe Gln Val Pro Ser  
225 230 235 240  
Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val  
245 250 255  
Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro  
260 265 270



Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys Ile Leu Thr Leu Val Tyr  
275 280 285

Ser Val Thr Thr Pro Leu Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn  
290 295 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Phe Gly Met Arg Ile  
305 310 315 320

Arg Gln Asn Ser

<210> 326  
<211> 975  
<212> DNA  
<213> Homo sapiens

<400> 326  
atgtctttct tctttgtaga ctttaagaccc atgaacaggt cagcaacaca catcgtgaca 60  
gagtttattc tcctgggatt ccttggttgc tggaagattc agattttcct cttctcattg 120  
tttttggtga tttatgtctt gaccttgctg ggaaatggag ccatcatcta tgcagtgaga 180  
tgcaaccac tactacacac ccccatgtac tttctgctgg gaaattttgc cttccttgag 240  
atctggtatg tgtcctccac tattcctaac atgctagtca acattctctc caagaccaag 300  
gccatctcat tttctgggtg cttcctccag ttctatttct tcttttctact gggaacaact 360  
gaatgtctct ttctggcagt aatggcttat gatcgatacc tggccatctg ccaccactg 420  
cagtaccctg ccatcatgac tgtaagggtc tgtggtaagc tgggtgtctt ctggtggctt 480  
attggattcc ttggataccc aattcccat ttctacatct cccaactccc cttctgtggt 540  
cctaatatca ttgatcactt cctgtgtgac atggacccat tgatggctct atcctgtgcc 600  
ccagctccca taactgaatg tattttctat actcagagct cccttgctct ctttttctact 660  
agtatgtaca ttcttcgac ctatatcctg ttactaacag ctgtttttca ggtcccttct 720  
gcagctgggc ggagaaaagc cttctctacc tgtggttctc atttggttgt ggtatctctt 780  
ttctatggga cagtcattgg aatgtatgta agtcctacat atgggatccc aactttattg 840  
cagaagatcc tcacactggg atattcagta acgactctc tttttaatcc tctgatctat 900  
actcttcgta ataaggacat gaaactcgct ctgagaaatg tcctgtttgg aatgagaatt 960  
cgtcaaaatt cgtga 975

<210> 327  
<211> 291  
<212> PRT  
<213> Homo sapiens

<400> 327  
Met Val Gly Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
1 5 10 15  
Leu Thr Asn Ser Trp Glu Ile Arg Leu Leu Leu Val Phe Ser Ser  
20 25 30  
Met Phe Tyr Met Ala Ser Met Met Gly Asn Ser Leu Ile Leu Leu Thr  
35 40 45  
Val Thr Ser Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala  
50 55 60  
Asn Leu Ser Phe Ile Asp Leu Gly Val Ser Ser Val Thr Ser Pro Lys  
65 70 75 80  
Met Ile Tyr Asp Leu Phe Arg Lys His Glu Val Ile Ser Phe Gly Gly

85

90

95

Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met  
 100 105 110

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu Gln Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Met Phe Phe  
 130 135 140

Leu Val Ala Ala Trp Val Thr Gly Leu Ile His Ser Val Val Gln Leu  
 145 150 155 160

Val Phe Val Val Asn Leu Pro Phe Cys Gly Pro Asn Val Ser Asp Ser  
 165 170 175

Phe Tyr Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Thr Asp Ser  
 180 185 190

Tyr Arg Leu Glu Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

Gly Ser Phe Phe Ile Leu Ile Ile Ser Tyr Val Val Ile Ile Leu Thr  
 210 215 220

Val Leu Lys His Ser Ser Ala Gly Leu Ser Lys Ala Leu Ser Thr Leu  
 225 230 235 240

Ser Ala His Val Ser Val Val Val Leu Phe Phe Gly Pro Leu Ile Phe  
 245 250 255

Val Tyr Thr Trp Pro Ser Pro Ser Thr His Leu Asp Lys Phe Leu Ala  
 260 265 270

Ile Phe Asp Ala Val Leu Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285

Phe Arg Asn  
 290

<210> 328

<211> 876

<212> DNA

<213> Homo sapiens

<400> 328

atggttgagg caaatcactc cgtggtgtca gagtttgtgt tcttgggact caccaattcc 60  
 tgggagatcc gacttctcct ccttgtgttc tctccatgt tttacatggc cagtatgatg 120  
 ggaaactctc tcattttgct cactgtgact tctgaccctc acttgactc ccccatgtat 180  
 tttctgttag ccaacctctc cttcattgac ctgggtgttt cctctgtcac ttctcccaa 240  
 atgatttatg acctgttcag aaagcacgaa gtcattctct ttggaggctg catcgctcaa 300  
 atcttcttca tccacgtcat tggcgggtgt gagatggtgc tgctcatagc catggccttt 360  
 gacagatatg tggccatatg taagccctc cagtacctga ccattatgag cccaagaatg 420  
 tgcattgtct tcttagtggc tgccgtgggt accggcctta tccactctgt agttcaattg 480  
 gttttttag taaacttgcc cttctgtggt cctaattgat cggacagctt ttactgtgac 540  
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 gccaacagt gattcatctc tctgggctcc ttcttcatac tgatcatttc ctatgtgggtc 660  
 atcattctca ctgttctgaa acactcttca gctgggtttat ccaaggctct gtccaccctt 720  
 tcagctcacg tcagtgtggt agttttgttc tttggtcctt tgatttttgt ctatacgtgg 780

ccatctccct ccacacacct ggataagttt ctggccatct ttgatgcagt tctcactcct 840  
gttttaaatac ctatcatcta cacattcagg aattga 876

<210> 329  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 329  
Met Asn Gly Met Asn His Ser Val Val Ser Glu Phe Val Phe Met Gly  
1 5 10 15  
Leu Thr Asn Ser Arg Glu Ile Gln Leu Leu Leu Phe Val Phe Ser Leu  
20 25 30  
Leu Phe Tyr Phe Ala Ser Met Met Gly Asn Leu Val Ile Val Phe Thr  
35 40 45  
Val Thr Met Asp Ala His Leu His Ser Pro Met Tyr Phe Leu Leu Ala  
50 55 60  
Asn Leu Ser Ile Ile Asp Met Ala Phe Cys Ser Ile Thr Ala Pro Lys  
65 70 75 80  
Met Ile Cys Asp Ile Phe Lys Lys His Lys Ala Ile Ser Phe Arg Gly  
85 90 95  
Cys Ile Thr Gln Ile Phe Phe Ser His Ala Leu Gly Gly Thr Glu Met  
100 105 110  
Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Lys  
115 120 125  
Pro Leu His Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Tyr Phe  
130 135 140  
Leu Ala Thr Ser Ser Ile Ile Gly Leu Ile His Ser Leu Val Gln Leu  
145 150 155 160  
Val Phe Val Val Asp Leu Pro Phe Cys Gly Pro Asn Ile Phe Asp Ser  
165 170 175  
Phe Tyr Cys Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asn Thr  
180 185 190  
Gln Glu Leu Glu Phe Met Val Thr Val Asn Ser Gly Leu Ile Ser Val  
195 200 205  
Gly Ser Phe Val Leu Leu Val Ile Ser Tyr Ile Phe Ile Leu Phe Thr  
210 215 220  
Val Trp Lys His Ser Ser Gly Gly Leu Ala Lys Ala Leu Ser Thr Leu  
225 230 235 240  
Ser Ala His Val Thr Val Val Ile Leu Phe Phe Gly Pro Leu Met Phe  
245 250 255  
Phe Tyr Thr Trp Pro Ser Pro Thr Ser His Leu Asp Lys Tyr Leu Ala  
260 265 270

Ile Phe Asp Ala Phe Ile Thr Pro Phe Leu Asn Pro Val Ile Tyr Thr  
275 280 285

Phe Arg Asn Lys Asp Met Lys Val Ala Met Arg Arg Leu Cys Ser Arg  
290 295 300

Leu Ala His Phe Thr Lys Ile Leu  
305 310

<210> 330  
<211> 939  
<212> DNA  
<213> Homo sapiens

<400> 330  
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cgggagattc agcttctact ttttggtttc tctttgttgt tctactttgc gagcatgatg 120  
ggaaaccttg tcattgtatt cactgtaacc atggatgctc atctgcactc ccccatgtat 180  
ttcctcctgg ctaacctctc aatcattgat atggcatttt gctcaattac agcccctaag 240  
atgatttgtg atattttcaa gaagcacaag gccatctcct ttcgggggatg tattactcag 300  
atcttcttta gccatgctct tgggggcact gagatgggtgc tgctcatagc catggccttt 360  
gacagataca tggccatatg taaacctctc cactacctga ccatcatgag cccaagaatg 420  
tgtctatact ttttagccac ttcctctatc attggcctta tccactcatt ggtccaatta 480  
gtttttgtgg tagatttacc tttttgtggg cctaatatct ttgacagttt ttactgtgat 540  
ctccctcggc tctcagact tgccgtgacc aacacccaag aactggagtt catgggtcact 600  
gtcaatagtg gactcatttc tgtgggctcc tttgtcttgc tggtaatctc ctacatcttc 660  
attctgttca ctgtttggaa acattcttct ggtggtctag ccaaggccct ctctaccctg 720  
tcagctcatg tcaactgtgg catcttggtc tttgggccac tgatgttttt ctacacatgg 780  
ccttctccca catcacacct ggataaatat cttgctattt ttgatgcatt tattactcct 840  
tttctgaatc cagttatcta cacattcagg aacaaagaca tgaaagtggc aatgaggaga 900  
ctgtgcagtc gtcttgcgca ttttacaaag attttgtaa 939

<210> 331  
<211> 354  
<212> PRT  
<213> Homo sapiens

<400> 331  
Met Thr Asn Lys Met Tyr Ala Ile Tyr Ile Lys Asn Leu Asn Tyr Phe  
1 5 10 15  
Ser Phe Leu Ile Val Gln Cys Leu Gln Pro Thr Met Ala Ile Phe Asn  
20 25 30  
Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu Thr Ala Phe Pro Gly  
35 40 45  
Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro Val Cys Cys Leu Tyr  
50 55 60  
Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe Leu Val Ile Ile Thr  
65 70 75 80  
Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu Ala  
85 90 95  
Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu Pro Thr Val Leu Gly  
100 105 110

Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe Lys Ala Cys Phe Ile  
 115 120 125  
 Gln Met Phe Phe Val His Ala Phe Ser Leu Leu Glu Ser Ser Val Leu  
 130 135 140  
 Val Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu Asn  
 145 150 155 160  
 Tyr Ala Thr Ile Leu Thr Asp Arg Met Val Leu Val Ile Gly Leu Val  
 165 170 175  
 Ile Cys Ile Arg Pro Ala Val Phe Leu Leu Pro Leu Leu Val Ala Ile  
 180 185 190  
 Asn Thr Val Ser Phe His Gly Gly His Glu Leu Ser His Pro Phe Cys  
 195 200 205  
 Tyr His Pro Glu Val Ile Lys Tyr Thr Tyr Ser Lys Pro Trp Ile Ser  
 210 215 220  
 Ser Phe Trp Gly Leu Phe Leu Gln Leu Tyr Leu Asn Gly Thr Asp Val  
 225 230 235 240  
 Leu Phe Ile Leu Phe Ser Tyr Val Leu Ile Leu Arg Thr Val Leu Gly  
 245 250 255  
 Ile Val Ala Arg Lys Lys Gln Gln Lys Ala Leu Ser Thr Cys Val Cys  
 260 265 270  
 His Ile Cys Ala Val Thr Ile Phe Tyr Val Pro Leu Ile Ser Leu Ser  
 275 280 285  
 Leu Ala His Arg Leu Phe His Ser Thr Pro Arg Val Leu Cys Ser Thr  
 290 295 300  
 Leu Ala Asn Ile Tyr Leu Leu Leu Pro Pro Val Leu Asn Pro Ile Ile  
 305 310 315 320  
 Tyr Ser Leu Lys Thr Lys Thr Ile Arg Gln Ala Met Phe Gln Leu Leu  
 325 330 335  
 Gln Ser Lys Gly Ser Trp Gly Phe Asn Val Arg Gly Leu Arg Gly Arg  
 340 345 350

Trp Asp

<210> 332  
 <211> 1065  
 <212> DNA  
 <213> Homo sapiens

<400> 332  
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 gttcagtgtc ttcaaccaac catggcaata ttcaataaca ccacttcgctc ttcctcaaac 120  
 ttcctcctca ctgcattccc tgggctggaa tgtgctcatg tctggatctc cattccagtc 180  
 tgctgtctct acaccattgc cctcttggga aacagtatga tctttcttgt catcattact 240  
 aagcggagac tccacaaacc catgtattat ttcctctcca tgctggcagc tgttgatcta 300  
 tgtctgacca ttacgacct tcccactgtg cttggtgttc tctggtttca tgcccgagg 360

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atcagcttta aagcttgctt cattcaaag ttctttgtgc atgctttctc cttgctggag 420
tcctcgggtgc tggtagccat ggcctttgac cgcttcgtgg ctatctgtaa cccactgaac 480
tatgtacta tcctcacaga caggatgggc ctggtgatag ggctgggtcat ctgcattaga 540
ccagcagttt tcttacttcc ccttcttgta gccataaaca ctgtgtcttt tcatgggggt 600
cacgagcttt cccatccatt ttgtaccac ccagaagtga tcaaatacac atattccaaa 660
ccttggatca gcagtttttg gggactgttt cttcagctct acctgaatgg cactgacgta 720
ttgtttattc ttttctccta tgtcctgac ctcctgactg ttctgggcat tgtggcccga 780
aagaagcaac aaaaagctct cagcacttgt gtctgtcaca tctgtgcagt cactattttc 840
tatgtgccac tgatcagcct ctctttggca caccgcctct tccactccac cccaagggtg 900
ctctgtagca ctttggccaa tatttatctg ctcttaccac ctgtgctgaa ccctatcatt 960
tacagcttga agaccaagac aatccgccag gctatgttcc agctgctcca atccaagggt 1020
tcattggggtt ttaatgtgag gggctcttag ggaagatggg attga 1065

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<210> 333

<211> 312

<212> PRT

<213> Homo sapiens

<400> 333

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Met Ser Val Leu Asn Asn Ser Glu Val Lys Leu Phe Leu Leu Ile Gly
  1              5              10              15

Ile Pro Gly Leu Glu His Ala His Ile Trp Phe Ser Ile Pro Ile Cys
      20              25              30

Leu Met Tyr Leu Leu Ala Ile Met Gly Asn Cys Thr Ile Leu Phe Ile
      35              40              45

Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala
      50              55              60

Met Leu Ala Val Ser Asp Met Gly Leu Ser Leu Ser Ser Leu Pro Thr
      65              70              75              80

Met Leu Arg Val Phe Leu Phe Asn Ala Met Gly Ile Ser Pro Asn Ala
      85              90              95

Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Thr Val Met Glu Ser
      100              105              110

Ser Val Leu Leu Ile Met Ser Leu Asp Arg Phe Leu Ala Ile His Asn
      115              120              125

Pro Leu Arg Tyr Ser Ser Ile Leu Thr Ser Asn Arg Val Ala Lys Met
      130              135              140

Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro
      145              150              155              160

Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His
      165              170              175

Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn
      180              185              190

Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu
      195              200              205

Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile
      210              215              220

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Leu Ser Ile Ala Ser Leu Ala Glu Arg Leu Lys Ala Leu Asn Thr Cys  
 225 230 235 240  
 Val Ser His Ile Cys Ala Val Leu Thr Phe Tyr Val Pro Ile Ile Thr  
 245 250 255  
 Leu Ala Ala Met His His Phe Ala Lys His Lys Ser Pro Leu Val Val  
 260 265 270  
 Ile Leu Ile Ala Asp Met Phe Leu Leu Val Pro Pro Leu Met Asn Pro  
 275 280 285  
 Ile Val Tyr Cys Val Lys Thr Arg Gln Ile Trp Glu Lys Ile Leu Gly  
 290 295 300  
 Lys Leu Leu Asn Val Cys Gly Arg  
 305 310

<210> 334  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 334  
 atgtctgttc tcaataactc cgaagtcaag cttttccttc tgattgggat cccaggactg 60  
 gaacatgccc acatttggtt ctccatcccc atttgccctca tgtacctgct tgccatcatg 120  
 ggcaactgca ccattctctt tattataaag acagagccct cgcttcatga gcccattgat 180  
 tatttccttg ccattgttggc tgtctctgac atgggcctgt cctctctctc ccttctctacc 240  
 atgttgaggg tcttcttgtt caatgccatg ggaatttcac ctaatgcctg ctttgctcaa 300  
 gaattcttca ttcattggatt cactgtcatg gaatcctcag tacttctaata tatgtctttg 360  
 gaccgctttc ttgccattca caatccctta agatacagtt ctatcctcac tagcaacagg 420  
 gttgctaataa tgggacttat ttttagccatt aggagcattc tcttagtgat tccatttccc 480  
 ttcaccttaa ggagattaaa atattgtcaa aagaatcttc tttctcactc atactgtctt 540  
 catcaggata ccatgaagct ggctgctct gacaacaaga ccaatgtcat ctatggcttc 600  
 ttcattgctc tctgtactat gctggacttg gcaactgattg ttttgtctta tgtgctgatc 660  
 ttgaagacta tactcagcat tgcattcttg gcagagaggc ttaaggccct aaataacctgt 720  
 gtctcccaca tctgtgctgt gctcaccttc tatgtgccc tcatcaccct ggctgcccag 780  
 catcactttg ccaagcaca aagccctctt gttgtgatcc ttattgcaga tatgttcttg 840  
 ttggtgccgc cccttatgaa cccattgtg tactgtgtaa agactcgaca aatctgggag 900  
 aagatcttgg ggaagttgct taatgtatgt gggagataa 939

<210> 335  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 335  
 Met Thr Leu Gly Ser Leu Gly Asn Ser Ser Ser Ser Val Ser Ala Thr  
 1 5 10 15  
 Phe Leu Leu Ser Gly Ile Pro Gly Leu Glu Arg Met His Ile Trp Ile  
 20 25 30  
 Ser Ile Pro Leu Cys Phe Met Tyr Leu Val Ser Ile Pro Gly Asn Cys  
 35 40 45  
 Thr Ile Leu Phe Ile Ile Lys Thr Glu Arg Ser Leu His Glu Pro Met  
 50 55 60

Tyr Leu Phe Leu Ser Met Leu Ala Leu Ile Asp Leu Gly Leu Ser Leu  
 65 70 75 80  
 Cys Thr Leu Pro Thr Val Leu Gly Ile Phe Trp Val Gly Ala Arg Glu  
 85 90 95  
 Ile Ser His Asp Ala Cys Phe Ala Gln Leu Phe Phe Ile His Cys Phe  
 100 105 110  
 Ser Phe Leu Glu Ser Ser Val Leu Ser Met Ala Phe Asp Arg Phe  
 115 120 125  
 Val Ala Ile Cys His Pro Leu His Tyr Val Ser Ile Leu Thr Asn Thr  
 130 135 140  
 Val Ile Gly Arg Ile Gly Leu Val Ser Leu Gly Arg Ser Val Ala Leu  
 145 150 155 160  
 Ile Phe Pro Leu Pro Phe Met Leu Lys Arg Phe Pro Tyr Cys Gly Ser  
 165 170 175  
 Pro Val Leu Ser His Ser Tyr Cys Leu His Gln Glu Val Met Lys Leu  
 180 185 190  
 Ala Cys Ala Asp Met Lys Ala Asn Ser Ile Tyr Gly Met Phe Val Ile  
 195 200 205  
 Val Ser Thr Val Gly Ile Asp Ser Leu Leu Ile Leu Phe Ser Tyr Ala  
 210 215 220  
 Leu Ile Leu Arg Thr Val Leu Ser Ile Ala Ser Arg Ala Glu Arg Phe  
 225 230 235 240  
 Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe  
 245 250 255  
 Tyr Thr Pro Met Ile Gly Leu Ser Val Ile His Arg Phe Gly Lys Gln  
 260 265 270  
 Ala Pro His Leu Val Gln Val Val Met Gly Phe Met Tyr Leu Leu Phe  
 275 280 285  
 Pro Pro Val Met Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile  
 290 295 300  
 Arg Asp Arg Val Thr His Ala Phe Cys Tyr  
 305 310

<210> 336  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 336  
 atgaccctgg gatccctggg aaacagcagc agcagcggtt ctgctacctt cctgctgagt 60  
 ggcacccctg ggctggagcg catgcacatc tggatctcca tcccactgtg cttcatgtat 120  
 ctgggtttcca tcccgggcaa ctgcacaatt ctttttatca ttaaaacaga gcgctcactt 180  
 catgaacctt tgtatctctt cctgtccatg ctggctctga ttgacctggg tctctccctt 240  
 tgcactctcc ctacagtcct gggcatcttt tgggttgagg cacgagaaat tagccatgat 300



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gcctgctttg ctcagctctt ttccattcac tgcttctcct tcctcgagtc ctctgtgcta 360
ctgtctatgg cctttgaccg ctttgtggct atctgccacc ccttgcacta tgtttccatt 420
ctcaccaaca cagtcattgg caggattggc ctgggtctctc tgggtcgtag tgtagcactc 480
atttttccat taccttttat gctcaaaaga ttccccattt gtggctcccc agttctctca 540
cattcttatt gtctccacca agaagtgatg aaattggcct gtgccgacat gaaggccaac 600
agcatctacg gcatgtttgt catcgtctct acagtgggta tagactcact gctcatcctc 660
ttctcttatg ctctgatoct gcgcaccgtg ctgtccatcg cctccagggc tgagagattc 720
aaggccctta acacctgtgt ttccacatc tgtgctgtgc tgctcttcta cactcccatg 780
attggcctct ctgtcatcca tcgctttgga aagcaggcac cccacctggt ccagggtggc 840
atgggtttca tgtatcttct ctttctctct gtgatgaatc ccattgtcta cagtgtgaag 900
accaaacaga tccgggatcg agtgacgcat gccttttggt actaa 945

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<210> 337  
 <211> 302  
 <212> PRT  
 <213> Homo sapiens

<400> 337

Met Thr Asn Leu Asn Ala Ser Gln Ala Asn His Arg Asn Phe Ile Leu  
 1 5 10 15

Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala Phe Pro  
 20 25 30

Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr Ile Leu  
 35 40 45

Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr Tyr Phe  
 50 55 60

Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser Thr Leu  
 65 70 75 80

Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile Val Phe  
 85 90 95

Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly Ile Val  
 100 105 110

Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val Ala Ile  
 115 120 125

Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val Ile Arg  
 130 135 140

Lys Thr Gly Ile Ser Val Leu Thr Arg Ala Val Cys Val Val Phe Pro  
 145 150 155 160

Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn Val Leu  
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala Cys Ala  
 180 185 190

Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr  
 195 200 205

Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu  
 210 215 220

Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu  
225 230 235 240

Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr Val Pro  
245 250 255

Phe Met Gly Ala Ala Ser Met Ile His Arg Phe Trp Glu His Leu Ser  
260 265 270

Pro Val Val His Met Val Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro  
275 280 285

Val Leu Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile  
290 295 300

<210> 338  
<211> 909  
<212> DNA  
<213> Homo sapiens

<400> 338  
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ggaacgccag acaagaaccc atgggtggcc tttcccctgg gatttctcta cacactcaca 120  
ctcctgggaa atggtaccat cctagctgtc atcaagggtg agccaagtct ccatgagccc 180  
acgtattact tcctttctat cttggctctc actgacgtta gtctctccat gtccaccttg 240  
ccctccatgc tcagcatcta ctgggtttaat gcccctcaga ttgtttttga tgcattgcac 300  
atgcagatgt tcttcatcca tgtatttgga atagtagaat caggagtcct agtgtccatg 360  
gcctttgaca gatttgtggc catccgaaac ccattacact atgtttccat cctcactcac 420  
gatgttattc gaaagactgg aatatctgtc ctcaccggg cagtctgtgt ggtattccct 480  
gtgcccttcc ttataaagtg cctacccttc tgccattcca atgtcttgtc tcattcatac 540  
tgtcttcacc aaaacatgat gcggctagct tgtgccagca cccgcatcaa cagcctctac 600  
ggcctcatcg tcgtcatctt cacactgggg ctcgatgttc tctcactct actgtcttat 660  
gtactcacc tgaagactgt gctgggcatt gtctccagag gtgaaaggct gaaaaccctc 720  
agcacatgcc tctctcacat gtctaccgtg ctctctctct atgttccctt tatgggtgct 780  
gcctccatga tccacagatt ttgggagcat ttatcaccag tagtgcacat ggtcatggct 840  
gatataacc tactgtctcc gcctgtgcta aacccattg tctacagtgt gaagaccaag 900  
caaatttga 909

<210> 339  
<211> 323  
<212> PRT  
<213> Homo sapiens

<400> 339  
Met Ser Thr Leu Pro Thr Gln Ile Ala Pro Asn Ser Ser Thr Ser Met  
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Ala Pro Thr Phe Leu Leu Val Gly Met Pro Gly Leu Ser Gly Ala Pro  
20 25 30  
Ser Trp Trp Thr Leu Pro Leu Ile Ala Val Tyr Leu Leu Ser Ala Leu  
35 40 45  
Gly Asn Gly Thr Ile Leu Trp Ile Ile Ala Leu Gln Pro Ala Leu His  
50 55 60  
Arg Pro Met His Phe Phe Leu Phe Leu Leu Ser Val Ser Asp Ile Gly  
65 70 75 80

Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly Ile Ala Leu Ala Gly  
                     85                                    90                                    95  
 Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu Gln Met Val Phe Ile  
                     100                                    105                                    110  
 His Val Phe Ser Val Met Glu Ser Ser Val Leu Leu Ala Met Ser Ile  
                     115                                    120                                    125  
 Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Ala Leu Leu  
                     130                                    135                                    140  
 Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala Ile Ser Phe Arg Cys  
                     145                                    150                                    155                                    160  
 Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu Ala Tyr Met Pro Tyr  
                     165                                    170                                    175  
 Cys Leu Pro Gln Val Leu Thr His Ser Tyr Cys Leu His Pro Asp Val  
                     180                                    185                                    190  
 Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala Ala Tyr Ser Leu Phe  
                     195                                    200                                    205  
 Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu Leu Ile Phe Phe Ser  
                     210                                    215                                    220  
 Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val Glu Ser Arg Glu Asp  
                     225                                    230                                    235                                    240  
 Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His Leu Ser Ala Val Leu  
                     245                                    250                                    255  
 Leu Phe Tyr Ile Pro Met Ile Leu Leu Ala Leu Ile Asn His Pro Glu  
                     260                                    265                                    270  
 Leu Pro Ile Thr Gln His Thr His Thr Leu Leu Ser Tyr Val His Phe  
                     275                                    280                                    285  
 Leu Leu Pro Pro Leu Ile Asn Pro Ile Leu Tyr Ser Val Lys Met Lys  
                     290                                    295                                    300  
 Glu Ile Arg Lys Arg Ile Leu Asn Arg Leu Gln Pro Arg Lys Val Gly  
                     305                                    310                                    315                                    320  
 Gly Ala Gln

<210> 340  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 340  
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 gctgtctacc ttctctctgc actgggaaat ggcaccatcc tctggatcat tgcctgcag 180  
 cccgccctgc accgccaat gcaattcttc ctcttcttgc ttagtggtgc tgatattgga 240  
 ttggtcactg cctgatgcc cacactgctg ggcacgccc ttgctgggtgc tcacactgtc 300  
 cctgcctcag cctgccttct acagatggtt tttatccatg tcttttctgt catggagtcc 360

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tctgtcttgc tcgcatgctc cattgatcgg gcactggcca tctgccgacc tctccactac 420
ccagcgctcc tcaccaatgg tgtaattagc aaaatcagcc tggccatttc ttttcgatgc 480
ctgggtctcc atctgcccct gccattcctg ctggcctaca tgccctactg cctcccacag 540
gtcctaacc cctacagcct atttctattg ctgcatcca gatgtggctc gtttggcctg cccagaagct 600
tggggtgcag cctacagcct atttctggtt ctttcagcca tgggtttgga cccctgctt 660
atttcttct cctatggcct gattggcaag gtgttgcaag gtgtggagtc cagagaggat 720
cgctggaagg ctggtcaaac ctgtgctgcc cacctctctg cagtgtcct cttctatata 780
cctatgatcc tcctggcact gattaaccat cctgagctgc caatcactca gcatacccat 840
actcttctat cctatgtcca tttccttctt cctccattga taaaccctat tctctatagt 900
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ggtgctcagt ga 972

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<210> 341  
 <211> 394  
 <212> PRT  
 <213> Homo sapiens

<400> 341

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Met Phe Tyr Pro Ile Leu Asn Asp Ile Ser Thr Lys Asn Asn Ser Asn
  1             5             10             15

Ile Met Ser Cys Cys Asn Ile Leu Phe Ile Lys Thr Val Glu Ile Ile
          20             25             30

Leu Val Tyr Asn Gln Thr Gln Ser Pro Trp Tyr Pro Ile Val Pro Ser
          35             40             45

Lys Ser Leu Val Tyr Asn Asn Asn Thr Cys Phe Asp Cys Tyr His Leu
          50             55             60

Gln Arg Val Asp Cys Val Pro Ser Arg Asp His Ile Asn Gln Ser Met
          65             70             75             80

Val Leu Ala Ser Gly Asn Ser Ser Ser His Pro Val Ser Phe Ile Leu
          85             90             95

Leu Gly Ile Pro Gly Leu Glu Ser Phe Gln Leu Trp Ile Ala Phe Pro
          100            105            110

Phe Cys Ala Thr Tyr Ala Val Ala Val Val Gly Asn Ile Thr Leu Leu
          115            120            125

His Val Ile Arg Ile Asp His Thr Leu His Glu Pro Met Tyr Leu Phe
          130            135            140

Leu Ala Met Leu Ala Ile Thr Asp Leu Val Leu Ser Ser Ser Thr Gln
          145            150            155            160

Pro Lys Met Leu Ala Ile Phe Trp Phe His Ala His Glu Ile Gln Tyr
          165            170            175

His Ala Cys Leu Ile Gln Val Phe Phe Ile His Ala Phe Ser Ser Val
          180            185            190

Glu Ser Gly Val Leu Met Ala Met Ala Leu Asp Cys Tyr Val Ala Thr
          195            200            205

Cys Phe Pro Leu Arg His Ser Ser Ile Leu Thr Pro Ser Val Val Ile
          210            215            220

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Lys Leu Gly Thr Ile Val Met Leu Arg Gly Leu Leu Trp Val Ser Pro  
 225 230 235 240  
 Phe Cys Phe Met Val Ser Arg Met Pro Phe Cys Gln His Gln Ala Ile  
 245 250 255  
 Pro Gln Ser Tyr Cys Glu His Met Ala Val Leu Lys Leu Val Cys Ala  
 260 265 270  
 Asp Thr Ser Ile Ser Arg Gly Tyr Gly Leu Phe Val Ala Phe Ser Val  
 275 280 285  
 Ala Gly Phe Asp Met Ile Val Ile Gly Met Ser Tyr Val Met Ile Leu  
 290 295 300  
 Arg Ala Val Leu Gln Leu Pro Ser Gly Glu Ala Arg Leu Lys Ala Phe  
 305 310 315 320  
 Ser Thr Arg Ala Ser His Ile Cys Val Ile Leu Ala Leu Tyr Ile Pro  
 325 330 335  
 Ala Leu Phe Ser Phe Leu Thr Tyr Arg Phe Gly His Asp Val Pro Arg  
 340 345 350  
 Val Val His Ile Leu Phe Ala Asn Leu Tyr Leu Leu Ile Pro Pro Met  
 355 360 365  
 Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gly Asp Arg  
 370 375 380  
 Val Ile Gln Gly Cys Cys Gly Asn Ile Pro  
 385 390

<210> 342  
 <211> 1185  
 <212> DNA  
 <213> Homo sapiens

<400> 342  
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 ccctgggtatc caatagtccc atccaaaagc cttgtatata ataataacac ttgttttgat 180  
 tgttatcatc tgcagagagt agattgcgtt cccagcagag accatattaa ccagtccatg 240  
 gtgctggctt cagggaaacag ctcttctcat cctgtgtcct tcatcctgct tggaatccca 300  
 ggctgggaga gtttccagtt gtggattgcc tttccgttct gtgccacgta tgctgtggct 360  
 gttgttgga atataactct cctccatgta atcagaattg accacaccct gcatgagccc 420  
 atgtacctct ttctggccat gctggccatc actgacctgg tcctctctc ctccactcaa 480  
 cctaagatgt tggccatatt ctggtttcat gctcatgaga ttcagtacca tgctgctc 540  
 atccaggtgt tcttcatcca tgccttttct tctgtggagt ctggggtgct catggctatg 600  
 gccctggact gctacgtggc tacctgcttc ccactccgac actctagcat cctgacccca 660  
 tcggctcgtga tcaaaactggg gaccatcgtg atgctgagag ggctgctgtg ggtgagcccc 720  
 ttctgcttca tgggtgtctag gatgcccttc tgccaacacc aagccattcc ccagtcatac 780  
 tgtgagcaca tggctgtgct gaagttggtg tgtgctgata caagcataag tcgtgggtat 840  
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 agcacacgtg cctcccatat ctgtgtcatc ttggctcttt atatcccagc ccttttttct 1020  
 ttcttcacct accgcttttg ccatgatgtg ccccgagttg tacacatcct gtttgcta 1080  
 ctctatctac tgatacctcc catgctcaac cccatcattt atggagttag aaccaaacag 1140  
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<210> 343  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 343

Met	Ser	Asn	Ala	Ser	Leu	Val	Thr	Ala	Phe	Ile	Leu	Thr	Gly	Leu	Pro
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His	Ala	Pro	Gly	Leu	Asp	Ala	Leu	Leu	Phe	Gly	Ile	Phe	Leu	Val	Val
			20					25					30		
Tyr	Val	Leu	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Leu	Leu	Val	Ile	Arg
		35					40					45			
Val	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Tyr	Phe	Leu	Thr	Asn	Leu
	50					55					60				
Ser	Phe	Ile	Asp	Met	Trp	Phe	Ser	Thr	Val	Thr	Val	Pro	Lys	Met	Leu
65					70					75					80
Met	Thr	Leu	Val	Ser	Pro	Ser	Gly	Arg	Ala	Ile	Ser	Phe	His	Ser	Cys
				85					90					95	
Val	Ala	Gln	Leu	Tyr	Phe	Phe	His	Phe	Leu	Gly	Ser	Thr	Glu	Cys	Phe
		100						105					110		
Leu	Tyr	Thr	Val	Met	Ser	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile	Ser	Tyr	Pro
		115					120					125			
Leu	Arg	Tyr	Thr	Ser	Met	Met	Ser	Gly	Ser	Arg	Cys	Ala	Leu	Leu	Ala
	130					135					140				
Thr	Gly	Thr	Trp	Leu	Ser	Gly	Ser	Leu	His	Ser	Ala	Val	Gln	Thr	Ile
145				150						155					160
Leu	Thr	Phe	His	Leu	Pro	Tyr	Cys	Gly	Pro	Asn	Gln	Ile	Gln	His	Tyr
			165						170					175	
Phe	Cys	Asp	Ala	Pro	Pro	Ile	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Ser
		180						185					190		
Ala	Asn	Val	Met	Val	Ile	Phe	Val	Asp	Ile	Gly	Ile	Val	Ala	Ser	Gly
		195					200					205			
Cys	Phe	Val	Leu	Ile	Val	Leu	Ser	Tyr	Val	Ser	Ile	Val	Cys	Ser	Ile
	210					215					220				
Leu	Arg	Ile	Arg	Thr	Ser	Asp	Gly	Arg	Arg	Arg	Ala	Phe	Gln	Thr	Cys
225					230					235					240
Ala	Ser	His	Cys	Ile	Val	Val	Leu	Cys	Phe	Phe	Val	Pro	Cys	Val	Val
			245						250					255	
Ile	Tyr	Leu	Arg	Pro	Gly	Ser	Met	Asp	Ala	Met	Asp	Gly	Val	Val	Ala
		260						265					270		
Ile	Phe	Tyr	Thr	Val	Leu	Thr	Pro	Leu	Leu	Asn	Pro	Val	Val	Tyr	Thr
		275					280					285			

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
 290 295 300

Val Ala His Pro Gln Arg Lys  
 305 310

<210> 344  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 344  
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 ctggacgccc tcctcttttg aatcttctcg gtgggtttacg tgctcactgt gctggggaac 120  
 ctccatcatcc tgctgggtgat cagggtggat tctcacctcc acacccccat gtactacttc 180  
 ctcaccaacc tgccttcat tgacatgtgg ttctccactg tcacgggtgcc caaaatgctg 240  
 atgaccttgg tgtccccaag cggcagggt atctccttcc acagctgcgt ggctcagctc 300  
 tattttttcc acttctctgg gagcaccgag tgtttcctct acacagtcac gtcctatgat 360  
 cgctacttgg ccatcagtta cccgctcagg tacaccagca tgatgagtgg gagcagggtg 420  
 gccctcctgg ccaccggcac ttgggtcagt ggctctctgc actctgctgt ccagaccata 480  
 ttgactttcc atttgcccta ctgtggaccc aaccagatcc agcactactt ctgtgacgca 540  
 ccgcccaccc tgaaactggc ctgtgcagac acctcagcca acgtgatggg catctttgtg 600  
 gacattggga tagtggcctc aggtctgctt gtcctgatag tgctgtccta tgtgtccatc 660  
 gtctgttcca tcctgcggat ccgcacctca gatgggaggc gcagagcctt tcagacctgt 720  
 gcctcccaact gtattgtggg cctttgcttc tttgttccct gtgttgtcat ttatctgagg 780  
 ccaggctcca tggatgccat ggatggagtt gtggccattt tctacactgt gctgacgccc 840  
 cttctcaacc ctgttgtgta caccctgaga aacaaggagg tgaagaaagc tgtgttgaaa 900  
 cttagagaca aagtagcaca tcctcagagg aaataa 936

<210> 345  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 345  
 Met Ala Gln Val Arg Ala Leu His Lys Ile Met Ala Leu Phe Ser Ala  
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 Asn Ser Ile Gly Ala Met Asn Asn Ser Asp Thr Arg Ile Ala Gly Cys  
 20 25 30  
 Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln Leu His Ile Trp Leu Ser  
 35 40 45  
 Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala Leu Glu Gly Asn Gly Ile  
 50 55 60  
 Leu Ile Cys Val Ile Leu Ser Gln Ala Ile Leu His Glu Pro Met Tyr  
 65 70 75 80  
 Ile Phe Leu Ser Met Leu Ala Ser Ala Asp Val Leu Leu Ser Thr Thr  
 85 90 95  
 Thr Met Pro Lys Ala Leu Ala Asn Leu Trp Leu Gly Tyr Ser His Ile  
 100 105 110  
 Ser Phe Asp Gly Cys Leu Thr Gln Lys Phe Phe Ile His Phe Leu Phe  
 115 120 125

Ile His Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala  
 130 135 140  
 Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile Leu Thr Ser Lys Val Ile  
 145 150 155 160  
 Gly Lys Ile Val Thr Ala Thr Leu Ser Arg Ser Phe Ile Ile Met Phe  
 165 170 175  
 Pro Ser Ile Phe Leu Leu Glu His Leu His Tyr Cys Gln Ile Asn Ile  
 180 185 190  
 Ile Ala His Thr Phe Cys Glu His Met Gly Ile Ala His Leu Ser Cys  
 195 200 205  
 Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly Leu Ala Ala Ala Leu Leu  
 210 215 220  
 Ser Thr Gly Leu Asp Ile Met Leu Ile Thr Val Ser Tyr Ile His Ile  
 225 230 235 240  
 Leu Gln Ala Val Phe Arg Leu Leu Ser Gln Asp Ala Arg Ser Lys Ala  
 245 250 255  
 Leu Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Leu Phe Tyr Val  
 260 265 270  
 Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg Phe Gly Gly Arg Ser Ile  
 275 280 285  
 Pro Cys Tyr Val His Ile Leu Leu Ala Ser Leu Tyr Val Val Ile Pro  
 290 295 300  
 Pro Met Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu  
 305 310 315 320  
 Glu Gly Ala Lys Gln Met Phe Ser Asn Leu Ala Lys Gly Ser Lys  
 325 330 335

<210> 346  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<400> 346  
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 gctatgaaca actctgacac tcgcatagca ggctgcttcc tcaactggcat ccctgggctg 120  
 gagcaactac atatctggct gtccatcccc ttctgcatca tgtacatcgc tgccctggaa 180  
 ggcaatggca tcctaatttg tgtcatcctc tcccaggcaa tcctgcatga gcccatgtac 240  
 atattcttat ctatgctggc cagtgtgat gtcttgctct ctaccaccac catgcctaag 300  
 gccctggcca atttgtggct aggttatagc cacatttcct ttgatggctg cctcactcaa 360  
 aagttcttca ttcacttcct cttcattcac tctgctgtcc tgctggccat ggcctttgac 420  
 cgctatgtgg ccactctgctc cccctgcca tatgtcaca tcctcacaag caaggtcatt 480  
 gggaagatcg tcaactgccac cctgagccgc agcttcatca ttatgtttcc atccatcttt 540  
 ctccttgagc acctgcacta ttgccagatc aacatcattg cacacacatt ttgtgagcac 600  
 atgggcattg cccactgtgc ctgttctgat atctccatca atgtctggta tgggttgga 660  
 gctgctcttc tctccacagg cctggacatc atgcttatta ctgtttccta catccacatc 720  
 ctccaagcag tcttccgcct cctttctcaa gatgcccgct ccaaggccct gagtacctgt 780  
 ggatcccata tctgtgtcat cctactcttc tatgtccctg cccttttttc tgtctttgcc 840  
 tacaggtttg gtgggagaag catcccatgc tatgtccata ttctcctggc cagcctctac 900



gttgcattc ctcctatgct caatcccgtt atttatggag tgaggactaa gccaatactg 960  
 gaaggggcta agcagatggt ttcaaâtctt gccaaaggat ctaaataa 1008

<210> 347  
 <211> 428  
 <212> PRT  
 <213> Homo sapiens

<400> 347  
 Met Phe Pro Ser Leu Cys Pro Cys Val Leu Leu Val Gln Leu Pro Leu  
 1 5 10 15  
 Met Asn Glu Asn Met Gln Cys Phe Val Phe Cys Ser Cys Asp Ser Leu  
 20 25 30  
 Leu Arg Met Met Val Ser Arg Phe Ile His Val Pro Phe Val Lys Met  
 35 40 45  
 Lys Arg Ile Ile Val Gly Gly Tyr Ser Lys His Phe Phe Ser Asn Glu  
 50 55 60  
 Leu Leu Cys Val Arg Pro Trp Ser Gly Lys Thr Trp Ser Ile Arg His  
 65 70 75 80  
 His Ile Phe Asp Met Glu Leu Leu Thr Asn Asn Leu Lys Phe Ile Thr  
 85 90 95  
 Asp Pro Phe Val Cys Arg Leu Arg His Leu Ser Pro Thr Pro Ser Glu  
 100 105 110  
 Glu His Met Lys Asn Lys Asn Asn Val Thr Glu Phe Ile Leu Leu Gly  
 115 120 125  
 Leu Thr Gln Asn Pro Glu Gly Gln Lys Val Leu Phe Val Thr Phe Leu  
 130 135 140  
 Leu Ile Tyr Met Val Thr Ile Met Gly Asn Leu Leu Ile Ile Val Thr  
 145 150 155 160  
 Ile Met Ala Ser Gln Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala  
 165 170 175  
 Ser Leu Ser Phe Ile Asp Thr Val Tyr Ser Thr Ala Phe Ala Pro Lys  
 180 185 190  
 Met Ile Val Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Gln Gly  
 195 200 205  
 Cys Met Ala Gln Leu Phe Met Asp His Leu Phe Ala Gly Ala Glu Val  
 210 215 220  
 Ile Leu Leu Val Val Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys Lys  
 225 230 235 240  
 Pro Leu His Glu Leu Ile Thr Met Asn Arg Arg Val Cys Val Leu Met  
 245 250 255  
 Leu Leu Ala Ala Trp Ile Gly Gly Phe Leu His Ser Leu Val Gln Phe  
 260 265 270

Leu Phe Ile Tyr Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Asn  
 275 280 285  
 Phe Leu Cys Asp Leu Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asn Thr  
 290 295 300  
 Tyr Val Thr Gly Leu Ser Met Ile Ala Asn Gly Gly Ala Ile Cys Ala  
 305 310 315 320  
 Val Thr Phe Phe Thr Ile Leu Leu Ser Tyr Gly Val Ile Leu His Ser  
 325 330 335  
 Leu Lys Thr Gln Ser Leu Glu Gly Lys Arg Lys Ala Phe Tyr Thr Cys  
 340 345 350  
 Ala Ser His Val Thr Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe  
 355 360 365  
 Leu Tyr Ala Arg Pro Asn Ser Thr Phe Pro Ile Asp Lys Ser Met Thr  
 370 375 380  
 Val Val Leu Thr Phe Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr  
 385 390 395 400  
 Leu Lys Asn Ala Glu Met Lys Ser Ala Met Arg Lys Leu Trp Ser Lys  
 405 410 415  
 Lys Val Ser Leu Ala Gly Lys Trp Leu Tyr His Ser  
 420 425

<210> 348  
 <211> 1287  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
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 atccatgtcc catttgtaaa aatgaaaagg ataattgtgg gaggatattc taaacacttc 180  
 ttttctaattg agctgctctg tgtgaggccc tggtcaggga aaacgtgggc gataaggcat 240  
 cacatttttg acatggagct tctgacaaat aatctcaaat ttatcactga cccttttgtt 300  
 tgtaggctcc gacacctgag tccaacacct tcagaagaac acatgaaaaa taagaacaat 360  
 gtgactgaat ttatcctctt agggctcaca cagaaccctg aggggcaaaa ggttttattt 420  
 gtcacattct tactaatcta catgggtgacg ataatgggca acctgcttat catagtgacc 480  
 atcatggcca gccagtcctt gggttcccccc atgtactttt ttctggcttc tttatcattc 540  
 atagataccg tctattctac tgcattttgt cccaaaatga ttgttgactt gctctctgag 600  
 aaaaagacca tttcctttca gggttgtatg gctcaacttt ttatggatca tttatttgct 660  
 ggtgctgaag tcattcttct ggtggtaatg gcctatgac gatacatggc catctgtaag 720  
 cctcttcattg aattgatcac catgaatcgt cgagtctgtg ttcttatgct gttggcggcc 780  
 tggattggag gctttcttca ctcatgggt caatttctct ttatttatca gctccctttc 840  
 tgtggaccca atgtcattga caacttctct tgtgatttgt atcccttatt gaaacttgct 900  
 tgcaccaata cctatgtcac tgggctttct atgatagcta atggaggagc gatttggtgct 960  
 gtcaccttct tcaactatct gctttcctat ggggtcatat tacactctct taagactcag 1020  
 agtttggaag ggaaacgaaa agctttctac acctgtgcat cccacgtcac tgtggctcatt 1080  
 ttattctttg tccccgtgat cttcttctgt gcaaggccca attctacttt tcccattgat 1140  
 aaatccatga ctgtagttct aacttttata actcccatgc tgaaccact aatctatacc 1200  
 ctgaagaatg cagaaatgaa aagtgccatg aggaaacttt ggagtaaaaa agtaagctta 1260  
 gctgggaaat ggctgtatca ctcatga 1287

<210> 349  
<211> 298  
<212> PRT  
<213> Homo sapiens

<400> 349

Met	Gln	Gln	Asn	Asn	Ser	Val	Pro	Glu	Phe	Ile	Leu	Leu	Gly	Leu	Thr
1				5					10					15	
Gln	Asp	Pro	Leu	Arg	Gln	Lys	Ile	Val	Phe	Val	Ile	Phe	Leu	Ile	Phe
			20					25					30		
Tyr	Met	Gly	Thr	Val	Val	Gly	Asn	Met	Leu	Ile	Ile	Val	Thr	Ile	Lys
		35					40					45			
Ser	Ser	Arg	Thr	Leu	Gly	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Phe	Tyr	Leu
	50					55					60				
Ser	Phe	Ala	Asp	Ser	Cys	Phe	Ser	Thr	Ser	Thr	Ala	Pro	Arg	Leu	Ile
65					70					75					80
Val	Asp	Ala	Leu	Ser	Glu	Lys	Lys	Ile	Ile	Thr	Tyr	Asn	Glu	Cys	Met
				85					90					95	
Thr	Gln	Val	Phe	Ala	Leu	His	Leu	Phe	Gly	Cys	Met	Glu	Ile	Phe	Val
			100					105					110		
Leu	Ile	Leu	Met	Ala	Val	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu
		115					120					125			
Arg	Tyr	Pro	Thr	Ile	Met	Ser	Gln	Gln	Val	Cys	Ile	Ile	Leu	Ile	Val
	130					135					140				
Leu	Ala	Trp	Ile	Gly	Ser	Leu	Ile	His	Ser	Thr	Ala	Gln	Ile	Ile	Leu
145					150					155					160
Ala	Leu	Arg	Leu	Pro	Phe	Cys	Gly	Pro	Tyr	Leu	Ile	Asp	His	Tyr	Cys
				165					170					175	
Cys	Asp	Leu	Gln	Pro	Leu	Leu	Lys	Leu	Ala	Cys	Met	Asp	Thr	Tyr	Met
			180					185					190		
Ile	Asn	Leu	Leu	Leu	Val	Ser	Asn	Ser	Gly	Ala	Ile	Cys	Ser	Ser	Ser
		195					200					205			
Phe	Met	Ile	Leu	Ile	Ile	Ser	Tyr	Ile	Val	Ile	Leu	His	Ser	Leu	Arg
	210					215					220				
Asn	His	Ser	Ala	Lys	Gly	Lys	Lys	Lys	Ala	Leu	Ser	Ala	Cys	Thr	Ser
225					230					235					240
His	Ile	Ile	Val	Val	Ile	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	Ile	Tyr
			245						250					255	
Thr	Arg	Pro	Pro	Thr	Thr	Phe	Pro	Met	Asp	Lys	Met	Val	Ala	Val	Phe
			260					265					270		
Tyr	Thr	Ile	Gly	Thr	Pro	Phe	Leu	Asn	Pro	Leu	Ile	Tyr	Thr	Ser	Glu
		275					280					285			
Glu	Cys	Arg	Ser	Glu	Lys	Cys	His	Glu	Lys						

<210> 350  
 <211> 895  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
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 aggcagaaaa tagtgtttgt aatctttctta attttctata tgggaactgt ggtggggaat 120  
 atgctcatta ttgtgaccat caagtccagc cggacactag gaagcccat gtacttcttt 180  
 ctattttatt tgccttttgc agattcttgc ttttcaactt ccacagcccc tagattaatt 240  
 gtggatgctc tctctgaaaa gaaaattata acctacaatg agtgcattgac acaagtcttt 300  
 gcactacatt tatttggctg catggagatc tttgtcctca ttctcatggc tgttgatcgc 360  
 tatgtggcca tctgtaagcc cttgcgttac ccaaccatca tgagccagca ggtctgcac 420  
 atcctgattg ttcttgctg gataggggtct ttaatacact ctacagctca gattatcctg 480  
 gccttaagat tgccttttctg tggaccctat ttgattgatc attattgctg tgatttgcag 540  
 cccttggtga aacttgctg catggacact tacatgatca acctgctgtt ggtgtctaac 600  
 agtggggcaa tttgctcaag tagtttcatg attttgataa tttcatatat tgtcatcttg 660  
 cattcactga gaaaccacag tgccaaaggg aagaaaaagg ctctctccgc ttgcacgtct 720  
 cacataattg tagtcatctt attctttggc ccatgtatat tcatatatac acgcccccg 780  
 accactttcc ccatggacaa gatggtggca gtattttata ctattggaac accctttctc 840  
 aatccactca tctacacatc tgaggaatgc agaagtgaaa aatgccatga gaaag 895

<210> 351  
 <211> 306  
 <212> PRT  
 <213> Homo sapiens

<400> 351  
 Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe  
 1 5 10 15  
 Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly  
 20 25 30  
 Val Tyr Cys Leu Thr Val Val Gly Ser Ser Thr Leu Ile Val Leu Ile  
 35 40 45  
 Cys Asn Asp Ser Arg Leu His Thr Pro Met Tyr Phe Val Ile Gly Asn  
 50 55 60  
 Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val His Thr Pro Lys Ile  
 65 70 75 80  
 Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys  
 85 90 95  
 Leu Cys Gln Phe Phe Ser Ala Arg Leu Ala Tyr Ser Glu Cys Tyr Leu  
 100 105 110  
 Leu Ala Ala Met Ala Tyr Asp His Tyr Val Ala Ile Ser Lys Pro Leu  
 115 120 125  
 Leu Tyr Ala Gln Thr Met Pro Arg Arg Leu Cys Ile Cys Leu Val Leu  
 130 135 140  
 Tyr Ser Tyr Thr Gly Gly Phe Val Asn Ala Ile Ile Leu Thr Ser Asn  
 145 150 155 160

Thr Phe Thr Leu Asp Phe Cys Gly Asp Asn Val Ile Asp Asp Phe Phe  
 165 170 175  
 Cys Asp Val Pro Pro Leu Val Lys Leu Ala Cys Ser Val Arg Glu Ser  
 180 185 190  
 Tyr Gln Ala Val Leu His Phe Leu Leu Ala Ser Asn Val Ile Ser Pro  
 195 200 205  
 Thr Val Leu Ile Leu Ala Ser Tyr Leu Ser Ile Ile Thr Thr Ile Leu  
 210 215 220  
 Arg Ile His Ser Thr Gln Gly Arg Ile Lys Val Phe Ser Thr Cys Ser  
 225 230 235 240  
 Ser His Leu Ile Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr Asn  
 245 250 255  
 Tyr Ser Arg Pro Ser Ser Ser Tyr Ser Leu Lys Arg Asp Lys Met Val  
 260 265 270  
 Ser Thr Phe Tyr Thr Met Leu Phe Pro Met Leu Asn Pro Met Ile Tyr  
 275 280 285  
 Ser Leu Arg Ser Lys Asp Met Lys Asp Ala Leu Lys Lys Phe Phe Lys  
 290 295 300

Ser Ala  
 305

<210> 352  
 <211> 921  
 <212> DNA  
 <213> Homo sapiens

<400> 352  
 atgcagagga gcaatcacac agtgactgag ttcatacctgc tgggcttcac cacagatcca 60  
 gggatgcaac tgggcctctt tgtggtgttc ctgggtgtgt actgtctgac tgtggttagga 120  
 agtagcacc tcatacgtgt gatctgtaat gactcccgcc tacacacacc catgtatttt 180  
 gtcattggaa atctgtcatt tctggatctc tgggtattct ctgtccacac cccaaagatc 240  
 ctagtgcct gcatctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc 300  
 ttctctgcca ggctggccta tagtgagtgc tacctactgg ctgccatggc ttatgaccac 360  
 tacgtggcca tctccaagcc cctgctttat gtcagacca tgccaaggag attgtgcatc 420  
 tgtttggttt tatattccta tactgggggt tttgtcaatg caataatatt aaccagcaac 480  
 acattcacat tggatttttg tggtgacaat gtcattgatg actttttctg tgatgttcca 540  
 cccctcgtga agctggcatg cagtgtgaga gagagctacc aggctgtgct gcacttcctt 600  
 ctggcctcca atgtcatctc cctactgtg ctcataccttg cctcttacct ctccatcatc 660  
 accaccatcc tgaggatcca ctctacccag ggccgcatca aagtcttctc cacatgctcc 720  
 tcccacctga tctccgttac cttatactat ggctccattc tctacaacta ctcccggcca 780  
 agttccagct actccctcaa gagggacaaa atgggtttcta cctttttatac tatgtgtgtc 840  
 cccatgttga atcccatgat ctacagtctg aggagtaaag acatgaaaga cgctctgaaa 900  
 aaattcttca agtcagcata a 921

<210> 353  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

[illegible]

<210> 354  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 354  
 atgactgggg gaggaatat tacagaaatc acctatttca tcttgctggg attctcagat 60  
 tttcccagga tcataaaagt gctcttcact atattcctgg tgatctacat tacatctctg 120  
 gcctggaacc tctccctcat tgttttaata aggatggatt cccacctcca tacacccatg 180  
 tatttcttcc tcagtaacct gtccttcata gatgtctgct atatcagctc cacagtcccc 240  
 aagatgctct ccaacctctt acaggaacag caaactatca cttttgttgg ttgtattatt 300  
 cagtacttta tcttttcaac gatgggactg agtgagtctt gtctcatgac agccatggct 360  
 tatgatcggt atgctgccat ttgtaacccc ctgctctatt catccatcat gtcacccacc 420  
 ctctgtgttt ggatgggtact gggagcctac atgactggcc tcaactgcttc tttattccaa 480  
 attggtgctt tgcttcaact ccacttctgt ggggtctaag tcatcagaca tttcttctgt 540  
 gacatgcccc aactgttaat cttgtcctgt actgacactt tctttgtaca ggtcatgact 600  
 gctatattaa ccatgttctt tgggatagca agtgccctag ttatcatgat atcctatggc 660  
 tatattggca tctccatcat gaagatcact tcagctaaag gcagtccaaa ggcattcaac 720  
 acctgtgctt ctcatctaac agctgtttcc ctcttctata catcaggaat ctttgtctat 780  
 ttgaggtcca gctctggagg ttcttcaagc tttgacagat ttgcatctgt tttctacact 840  
 gtggtcattc ccatgttaaa tcccttgatt tacagtttga ggaacaaaga aattaaagat 900  
 gccttaaaga ggttgcaaaa gagaaagtgc tgctga 936

<210> 355  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 355  
 Met Glu Asn Asn Thr Glu Val Thr Glu Phe Ile Leu Val Gly Leu Thr  
 1 5 10 15  
 Asp Asp Pro Glu Leu Gln Ile Pro Leu Phe Ile Val Phe Leu Phe Ile  
 20 25 30  
 Tyr Leu Ile Thr Leu Val Gly Asn Leu Gly Met Ile Glu Leu Ile Leu  
 35 40 45  
 Leu Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
 50 55 60  
 Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met  
 65 70 75 80  
 Val Gly Phe Leu Thr Gly Asp Lys Phe Ile Leu Tyr Asn Ala Cys Ala  
 85 90 95  
 Thr Gln Phe Phe Phe Phe Val Ala Phe Ile Thr Ala Glu Ser Phe Leu  
 100 105 110  
 Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Leu Cys Lys Pro Leu  
 115 120 125  
 His Tyr Thr Thr Thr Met Thr Thr Asn Val Cys Ala Cys Leu Ala Ile  
 130 135 140  
 Gly Ser Tyr Ile Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asn  
 145 150 155 160

Thr Phe Arg Leu Ser Phe Cys Arg Ser Asn Val Val Glu His Phe Phe  
 165 170 175  
 Cys Asp Ala Pro Pro Leu Leu Thr Leu Ser Cys Ser Asp Asn Tyr Ile  
 180 185 190  
 Ser Glu Met Val Ile Phe Phe Val Val Gly Phe Asn Asp Leu Phe Ser  
 195 200 205  
 Ile Leu Val Ile Leu Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Met  
 210 215 220  
 Lys Met Arg Ser Pro Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala  
 225 230 235 240  
 Ser His Leu Thr Ala Val Ser Ile Phe Tyr Gly Thr Gly Ile Phe Met  
 245 250 255  
 Tyr Leu Arg Pro Asn Ser Ser His Phe Met Gly Thr Asp Lys Met Ala  
 260 265 270  
 Ser Val Phe Tyr Ala Ile Val Ile Pro Met Leu Asn Pro Leu Val Tyr  
 275 280 285  
 Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Thr Val Gly  
 290 295 300  
 Lys Ala Lys Ala Ser Ile Gly Phe Ile Phe  
 305 310

<210> 356  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 356  
 atggagaaca acacagaggt gactgaattc atccttgtgg ggtaactga tgaccagaa 60  
 ctgcagatcc cactcttcat agtcttccct ttcactctacc tcatcactct gggtgggaac 120  
 ctggggatga ttgaattgat tctactggac tctgtctctc acaccccat gtacttcttc 180  
 ctcaagtaacc tctccctggg ggactttggg tattcctcag ctgtcactcc caaggtgatg 240  
 gtgggggttc tcacaggaga caaattcata ttatataatg cttgtgccac acaattcttc 300  
 ttctttgtag cctttatcac tgcagaaagt ttctcctgg catcaatggc ctatgaccgc 360  
 tatgcagcat tgtgtaaacc cctgcattac accaccacca tgacaacaaa tgtatgtgct 420  
 tgcctggcca taggctccta catctgtggg ttctggaatg catccattca tactgggaac 480  
 actttcaggc tctccttctg tagatccaat gtagttgaac actttttctg tgatgctcct 540  
 cctctcttga ctctctcatg ttcagacaac tacatcagtg agatgggtat tttttttgtg 600  
 gtgggattca atgacctctt ttctatcctg gtaatcctga tctcctactt atttatattt 660  
 atcaccatca tgaagatgcg ctcacctgaa ggacgccaga aggccttttc tacttgtgct 720  
 tcccacctta ctgcagtttc catcttttat gggacaggaa tctttatgta cttacgacct 780  
 aactccagcc atttcatggg cacagacaaa atggcatctg tgttctatgc catagtcatt 840  
 cccatgttga atccactggg ctacagcctg aggaacaaag aggttaagag tgcctttaaa 900  
 aagactgtag ggaaggcaaa ggcctctata ggattcatat tttaa 945

<210> 357  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 357



Met Glu Asn Lys Thr Glu Val Thr Gln Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15  
Asn Asp Ser Glu Leu Gln Val Pro Leu Phe Ile Thr Phe Pro Phe Ile  
20 25 30  
Tyr Ile Ile Thr Leu Val Gly Asn Leu Gly Ile Ile Val Leu Ile Phe  
35 40 45  
Trp Asp Ser Cys Leu His Asn Pro Met Tyr Phe Phe Leu Ser Asn Leu  
50 55 60  
Ser Leu Val Asp Phe Cys Tyr Ser Ser Ala Val Thr Pro Ile Val Met  
65 70 75 80  
Ala Gly Phe Leu Ile Glu Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala  
85 90 95  
Ala Gln Met Tyr Ile Phe Val Ala Phe Ala Thr Val Glu Asn Tyr Leu  
100 105 110  
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu  
115 120 125  
His Tyr Thr Thr Thr Met Thr Thr Thr Val Cys Ala Arg Leu Ala Ile  
130 135 140  
Gly Ser Tyr Leu Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asp  
145 150 155 160  
Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Glu Val His His Phe Phe  
165 170 175  
Cys Asp Ile Pro Ala Val Met Val Leu Ser Cys Ser Asp Arg His Ile  
180 185 190  
Ser Glu Leu Val Leu Ile Tyr Val Val Ser Phe Asn Ile Phe Ile Ala  
195 200 205  
Leu Leu Val Ile Leu Ile Ser Tyr Thr Phe Ile Phe Ile Thr Ile Leu  
210 215 220  
Lys Met His Ser Ala Ser Val Tyr Gln Lys Pro Leu Ser Thr Cys Ala  
225 230 235 240  
Ser His Phe Ile Ala Val Gly Ile Phe Tyr Gly Thr Ile Ile Phe Met  
245 250 255  
Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala  
260 265 270  
Pro Val Phe Tyr Thr Met Val Ile Pro Met Leu Asn Pro Leu Val Tyr  
275 280 285  
Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Val Val Glu  
290 295 300  
Lys Ala Lys Leu Ser Val Gly Trp Ser Val  
305 310

<210> 358  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 atggaaaata agacagaagt aacacaattc attcttctag gactaaccaa tgactcagaa 60  
 ctgcagggtc ccctctttat aacgttcccc ttcatctata ttatcactct ggttggaac 120  
 ctgggaatta ttgtattgat attctgggat tctgtctcc acaatcccat gtactttttt 180  
 ctcagtaact tgtctctagt ggacttttgc tactcttcag ctgtcactcc catcgtcattg 240  
 gctggattcc ttatagaaga caaggtcac tcttacaatg catgtgctgc tcaaattgat 300  
 atctttgtag cttttgccac tgtggaaaat tacctcttgg cctcaatggc ctatgaccgc 360  
 tatgcagcag tgtgcaaacc cctacattac accacaacca tgacaacaac tgtgtgtgct 420  
 cgtctggcca taggctccta cctctgtggt ttctggaatg cctccatcca cactggggac 480  
 acatttagtc tctctttctg taagtccaat gaagtccatc actttttctg tgatattcca 540  
 gcagtcatgg ttctctcttg ctctgataga catattagcg agcttgttct tatttatgtt 600  
 gtgagcttca atatctttat agctctcttg gttatcttga taccctacac attcattttt 660  
 atcaccatcc taaagatgca ctcagcttca gtataccaga agcctttgtc cacctgtgcc 720  
 tctcatttca ttgcagtcgg catcttctat gggactatta tcttcattgta cttacaaccc 780  
 agctccagtc actccatgga cacagacaaa atggcacctg tgttctatac aatgggtcatc 840  
 cccatgctga accctctggt ctatagtctg aggaacaagg aagtgaagag tgcattcaag 900  
 aaagttgttg agaaggcaaa attgtctgta ggatgggtcag tttaa 945

<210> 359  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 359  
 Met Glu Arg Gln Asn Gln Ser Cys Val Val Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Phe Ser Asn Tyr Pro Glu Leu Gln Gly Gln Leu Phe Val Ala Phe Leu  
 20 25 30  
 Val Ile Tyr Leu Val Thr Leu Ile Gly Asn Ala Ile Ile Ile Val Ile  
 35 40 45  
 Val Ser Leu Asp Gln Ser Leu His Val Pro Met Tyr Leu Phe Leu Leu  
 50 55 60  
 Asn Leu Ser Val Val Asp Leu Ser Phe Ser Ala Val Ile Met Pro Glu  
 65 70 75 80  
 Met Leu Val Val Leu Ser Thr Glu Lys Thr Thr Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Phe Ala Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Ala Glu Cys  
 100 105 110  
 Phe Leu Leu Gly Ala Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His  
 115 120 125  
 Pro Leu Asn Tyr Gln Met Ile Met Asn Lys Gly Val Phe Met Lys Leu  
 130 135 140  
 Ile Ile Phe Ser Trp Ala Leu Gly Phe Met Leu Gly Thr Val Gln Thr  
 145 150 155 160  
 Ser Trp Val Ser Ser Phe Pro Phe Cys Gly Leu Asn Glu Ile Asn His

165 170 175  
 Ile Ser Cys Glu Thr Pro Ala Val Leu Glu Leu Ala Cys Ala Asp Thr  
 180 185 190  
 Phe Leu Phe Glu Ile Tyr Ala Phe Thr Gly Thr Phe Leu Ile Ile Leu  
 195 200 205  
 Val Pro Phe Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala  
 210 215 220  
 Ile Leu Lys Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ala His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Ser  
 245 250 255  
 Met Thr Tyr Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys  
 260 265 270  
 Val Met Ser Leu Ser Tyr Ser Leu Leu Thr Pro Leu Leu Asn Leu Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Ser Glu Met Lys Arg Ala Leu Met Lys Leu  
 290 295 300  
 Trp Arg Arg Arg Val Val Leu His Thr Ile  
 305 310

<210> 360  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 360  
 atggaaagac aaaatcaaag ctgtgtgggt gaattcatcc tcttgggctt ttctaactat 60  
 cctgagctcc aggggcagct ctttgtgggt ttctgtggtt tttatctggt gaccctgata 120  
 ggaaatgcc aattatagat catcgtctcc ctagaccaga gcctccacgt tcccatgtac 180  
 ctgtttctcc tgaacttata tgtggtggac ctgagtttca gtgcagttat tatgcctgaa 240  
 atgctgggtg tcctctctac tgaaaaaact acaatttctt ttgggggctg ttttgcacag 300  
 atgtatttca tccttctttt tgggtggggt gaattgtttt ttctgggagc aatggcttat 360  
 gaccgatttg ctgcaatttg ccatactctc aactacaaaa tgattatgaa taaaggagtt 420  
 tttatgaaat taattatatt ttcatggggt ttaggtttta tgtaggtac tgttcaaaca 480  
 tcatgggtat ctagttttcc cttttgtggc cttaatgaaa ttaaccatat atcttgtgaa 540  
 accccagcag tgttagaact tgcattgtgc gacacgtttt tgtttgaaat ctatgcattc 600  
 acaggcacct ttttgattat tttggttctt ttcttgttga tactcttgtc ttacattcga 660  
 gttctgtttg ccatactgaa gatgccatca accactggga gacaaaaggc cttttccacc 720  
 tgtgcccgtc acctcacatc tgtgacccta ttctatggca cagccagtat gacttattta 780  
 caaccctaat ctggctactc accggaaaacc aagaaagtga tgtcattgtc ttactcactt 840  
 ctgacaccac tgctgaatct gcttatctac agtttgcgaa atagtgagat gaagagggtc 900  
 ttgatgaaat tatggcgaag gcgagtgggt ttacacacaa tctga 945

<210> 361  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ile Val Gln Leu Ile Cys Thr Val Cys Phe Leu Ala Val Asn Thr

1	5	10	15
Phe His Val Arg Ser Ser Phe Asp Phe Leu Lys Ala Asp Asp Met Gly	20	25	30
Glu Ile Asn Gln Thr Leu Val Ser Glu Phe Leu Leu Leu Gly Leu Ser	35	40	45
Gly Tyr Pro Lys Ile Glu Ile Val Tyr Phe Ala Leu Ile Leu Val Met	50	55	60
Tyr Leu Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala Ser Ile	65	70	75
Phe Asp Ser His Phe His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu	85	90	95
Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Val Pro Ser Thr Leu	100	105	110
Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly Cys Ala	115	120	125
Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys Leu Leu	130	135	140
Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu	145	150	155
Arg Tyr Pro Ile Ile Leu Ser Lys Val Ala Tyr Val Leu Met Ala Ser	165	170	175
Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Ala Val Gln Thr Leu Leu	180	185	190
Ala Met Arg Leu Pro Phe Cys Gly Asn Asn Ile Ile Asn His Phe Ala	195	200	205
Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp Ile Ser Leu	210	215	220
Asn Ile Ile Thr Met Val Ile Ser Asn Met Ala Phe Leu Val Leu Pro	225	230	235
Leu Met Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr Ile Leu	245	250	255
Gln Met Asn Ser Ala Thr Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser	260	265	270
Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe Phe Met	275	280	285
Tyr Ala Lys Pro Lys Ser Gln Asp Leu Ile Gly Glu Glu Lys Leu Gln	290	295	300
Ala Leu Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val Thr Pro Met	305	310	315
Leu Asn Pro Ile Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala	325	330	335

Val Lys Tyr Leu Leu Asn Lys Lys Pro Ile His  
340 345

<210> 362  
<211> 1044  
<212> DNA  
<213> Homo sapiens

<400> 362  
atgattgttc agttaatttg tactgtttgt ttcttggcag taaatacatt tcatgttaga 60  
tcttcttttg atttcctgaa agcagatgac atgggtgaga ttaaccagac acttgtgtca 120  
gaatttcttc ttctgggtct ttctggatac ccaaagattg agattgttta ctttgctctc 180  
attctagtta tgtacctagt gattctaatt ggcaatgggtg ttctaatacat agccagcatc 240  
tttgattctc attttcacac accaatgtac ttcttctctg gcaacctctc tttcctggat 300  
atctgctata catcctcctc tgttccctca acattgggtga gcttaatctc aaagaaaaga 360  
aacatttcct tctctggatg tgcagtgcag atgttctttg ggtttgcaat ggggtcaaca 420  
gaatgtctgc ttcttggcat gatggcattt gatcgttatg tggccatctg caaccactg 480  
agatacccca tcatcctgag caaggtggcg tatgtattga tggcttctgt gtcctggctg 540  
tccggtggaa taaattcagc tgtgcaaaca ttacttgcca tgagactgcc tttctgtggg 600  
aataatatta tcaatcattt cgcattgtgaa atattagctg tcctcaagct ggctgtgct 660  
gatatatccc tcaatattat caccatgggtg atatcaaata tggccttctc ggttcttcca 720  
ctgatgggtca tttttttctc ctatatgttc atcctctaca ccatcttgca aatgaattca 780  
gccacaggaa gacgcaaggc attttccacg tgctcagctc acctgactgt ggtgatcata 840  
ttttacggta ccatcttctt tatgtatgcg aaaccgaagt ctcaagacct gattggggaa 900  
gaaaaattgc aagcattaga caagctcatt tctctgtttt atggggtagt gacacccatg 960  
ctgaatccta tactctatag cttgagaaat aaggatgtaa aagctgctgt aaaatatttg 1020  
ctgaacaaaa aaccaattca ctaa 1044

<210> 363  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly  
1 5 10 15  
Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu  
20 25 30  
Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu  
35 40 45  
Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser  
50 55 60  
Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys  
65 70 75 80  
Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly  
85 90 95  
Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys  
100 105 110  
Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe  
 130 135 140  
 Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val  
 145 150 155 160  
 Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His  
 165 170 175  
 Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr  
 180 185 190  
 Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr  
 195 200 205  
 Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr  
 210 215 220  
 Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu  
 245 250 255  
 Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys  
 260 265 270  
 Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile  
 275 280 285  
 Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu  
 290 295 300  
 Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg  
 305 310 315 320

Ile Val Asn Ile

<210> 364  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 364  
 atgttggaga gtaattacac catgccaaact gagttcctat ttgttggatt cacagattat 60  
 ctacctctca gagtacacact gttcttggtta ttccctctgg tatatacatt aactatgggtc 120  
 ggaaatatac tcttaataat tctagttaat attaattcaa gccttcaaatt tcccatgtat 180  
 tattttctta gcaacttatac tttcttagac atcagctggt ctacagcaat cactcctaaa 240  
 atgctggcaa acttcttggc atccaggaaa agcatctctc cttatgggtg tgcactacaa 300  
 atgtttttct tcgcttcttt tgcctgatgct gaggcctta tcctggcagc aatggcttat 360  
 gaccgctatg cagccatctg caaccactg ctctatacta cactgatgtc taggagagtc 420  
 tgtgtctgct tcattgtgtt ggcatatttc agtgggaagta caacatcact ggtccatgtg 480  
 tgcctcacat tcaggctgtc attttgtggc tccaatatcg tcaatcattt tttctgtgat 540  
 atcccacctc ttctggcttt atcatgtaca gacactcaga tcaaccagct tctgctcttt 600  
 gctttgtgca gcttcatcca gaccagcact ttgtggtaa tatttatttc ttacttctgc 660  
 atcctcatca ctgtgttgag catcaagtcc tcagggtggca gaagcaaaac attctccact 720  
 tgtgcttccc acctcatagc agtcacctta ttctatggag cgctcctgtt tatgtactta 780  
 cagcccacca ctagctattc cctagacact gataagggtg tggcagtggt ttatactgtt 840  
 gtatttccca tgtttaatcc aataatttat agtttcagaa acaaggatgt gaaaaatgct 900

ctcaaaaagc tattagaaag aattggatat tcaaataaat ggtattttaa tcgtttaaga 960  
 atagtcaata tctaa 975

<210> 365  
 <211> 334  
 <212> PRT  
 <213> Homo sapiens

<400> 365  
 Met Cys Tyr Leu Ser Gln Leu Cys Leu Ser Leu Gly Glu His Thr Leu  
   1                  5                  10                  15  
 His Met Gly Met Val Arg His Thr Asn Glu Ser Asn Leu Ala Gly Phe  
           20                  25                  30  
 Ile Leu Leu Gly Phe Ser Asp Tyr Pro Gln Leu Gln Lys Val Leu Phe  
           35                  40                  45  
 Val Leu Ile Leu Ile Leu Tyr Leu Leu Thr Ile Leu Gly Asn Thr Thr  
       50                  55                  60  
 Ile Ile Leu Val Ser Arg Leu Glu Pro Lys Leu His Met Pro Met Tyr  
       65                  70                  75                  80  
 Phe Phe Leu Ser His Leu Ser Phe Leu Tyr Arg Cys Phe Thr Ser Ser  
           85                  90                  95  
 Val Ile Pro Gln Leu Leu Val Asn Leu Trp Glu Pro Met Lys Thr Ile  
           100                  105                  110  
 Ala Tyr Gly Gly Cys Leu Val His Leu Tyr Asn Ser His Ala Leu Gly  
       115                  120                  125  
 Ser Thr Glu Cys Val Leu Leu Ala Leu Met Ser Cys Asp Arg Tyr Val  
       130                  135                  140  
 Ala Val Cys Arg Pro Leu His Tyr Thr Val Leu Met His Ile His Leu  
       145                  150                  155                  160  
 Cys Met Ala Leu Ala Ser Met Ala Trp Leu Ser Gly Ile Ala Thr Thr  
           165                  170                  175  
 Leu Val Gln Ser Thr Leu Thr Leu Gln Leu Pro Phe Cys Gly His Arg  
           180                  185                  190  
 Gln Val Asp His Phe Ile Cys Glu Val Pro Val Leu Ile Lys Leu Ala  
       195                  200                  205  
 Cys Val Gly Thr Thr Phe Asn Glu Ala Glu Leu Phe Val Ala Ser Ile  
       210                  215                  220  
 Leu Phe Leu Ile Val Pro Val Ser Phe Ile Leu Val Ser Ser Gly Tyr  
       225                  230                  235                  240  
 Ile Ala His Ala Val Leu Arg Ile Lys Ser Ala Thr Arg Arg Gln Lys  
           245                  250                  255  
 Ala Phe Gly Thr Cys Phe Ser His Leu Thr Val Val Thr Ile Phe Tyr  
           260                  265                  270

Gly Thr Ile Ile Phe Met Tyr Leu Gln Pro Ala Lys Ser Arg Ser Arg  
275 280 285

Asp Gln Gly Lys Phe Val Ser Leu Phe Tyr Thr Val Val Thr Arg Met  
290 295 300

Leu Asn Pro Leu Ile Tyr Thr Leu Arg Ile Lys Glu Val Lys Gly Ala  
305 310 315 320

Leu Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu  
325 330

<210> 366  
<211> 1005  
<212> DNA  
<213> Homo sapiens

<400> 366  
atgtgttatc tttctcagct atgcctcagc cttggggaac acactttaca tatgggggatg 60  
gtgagacata ccaatgagag caacctagca gggttcatcc ttttaggggtt ttctgattat 120  
cctcagttac agaaggttct atttgtgctc atattgattc tgtattttact aactattttg 180  
gggaatacca ccatcattct ggtttctcgt ctggaacca agcttcatat gccgatgtat 240  
ttcttccttt ctcatctctc ctctctgtac cgtcgttca ccagcagtgt tattccccag 300  
ctcctggtaa acctgtggga acccatgaaa actatcgct atgggtggctg tttgggttcac 360  
ctttacaact cccatgccct gggatccact gagtgcgtcc tcttggctct gatgtcctgt 420  
gaccgctatg tggctgtctg ccgtcctctc cattacactg tcttaatgca tatccatctc 480  
tgcattggcct tggcatctat ggcattggctc agtgggaatag ccaccaccct ggtacagtcc 540  
accctcacc tgcagctgcc ctctctgtgg catcgccaag tggatcattt catctgcgag 600  
gtccctgtgc tcatcaagct ggcttgtgtg ggcaccacgt ttaacgaggc tgagcttttt 660  
gtggctagta tccttttctt tatagtgcct gtctcattca tcttgggtct ctctgggtac 720  
attgcccacg cagtgttgag gattaagtca gctaccagga gacagaaagc attcgggacc 780  
tgcttctccc acctgacagt ggtcaccatc ttttatggaa ccatcatctt catgtatctg 840  
cagccagcca agagtagatc cagggaccag ggcaagtttg tttctctctt ctacactgtg 900  
gtaacccgca tgcttaacct tcttatttat accttgagga tcaaggaggt gaaaggggca 960  
ttaaagaaag ttctagcaaa ggctctggga gtaaataatt tatga 1005

<210> 367  
<211> 309  
<212> PRT  
<213> Homo sapiens

<400> 367  
Met Glu Asn Cys Thr Glu Val Thr Lys Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15  
Ser Val Pro Glu Leu Gln Ile Pro Leu Phe Ile Leu Phe Thr Phe Ile  
20 25 30  
Tyr Leu Leu Thr Leu Cys Gly Asn Leu Gly Met Met Leu Leu Ile Leu  
35 40 45  
Met Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
50 55 60  
Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met  
65 70 75 80  
Ala Gly Phe Leu Arg Gly Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala  
85 90 95



Val Gln Met Phe Phe Phe Val Ala Leu Ala Thr Val Glu Asn Tyr Leu  
 100 105 110  
 Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu  
 115 120 125  
 His Tyr Thr Thr Thr Met Thr Ala Ser Val Gly Ala Cys Leu Ala Leu  
 130 135 140  
 Gly Ser Tyr Val Cys Gly Phe Leu Asn Ala Ser Phe His Ile Gly Gly  
 145 150 155 160  
 Ile Phe Ser Leu Ser Phe Cys Lys Ser Asn Leu Val His His Phe Phe  
 165 170 175  
 Cys Asp Val Pro Ala Val Met Ala Leu Ser Cys Ser Asp Lys His Thr  
 180 185 190  
 Ser Glu Val Ile Leu Val Phe Met Ser Ser Phe Asn Ile Phe Phe Val  
 195 200 205  
 Leu Leu Val Ile Phe Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Leu  
 210 215 220  
 Lys Met His Ser Ala Lys Gly His Gln Lys Ala Leu Ser Thr Cys Ala  
 225 230 235 240  
 Ser His Phe Thr Ala Val Ser Val Phe Tyr Gly Thr Val Ile Phe Ile  
 245 250 255  
 Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala  
 260 265 270  
 Ser Val Phe Tyr Ala Met Ile Ile Pro Met Leu Asn Pro Val Val Tyr  
 275 280 285  
 Ser Leu Arg Asn Arg Glu Val Gln Asn Ala Phe Lys Lys Val Leu Arg  
 290 295 300  
 Arg Gln Lys Phe Leu  
 305

<210> 368  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 atggagaatt gtacggaagt gacaaagttc attcttctag gactaaccag tgtcccagaa 60  
 ctacagatcc ccctctttat cttgttcacc ttcactctacc tcctcactct gtgtgggaac 120  
 ctggggatga tgttctctgat cctgatggac tcttgtctcc acaccccat gtactttttc 180  
 ctcagtaacc tgtctctggt ggactttgga tactcctcag ctgtcactcc caaggctcatg 240  
 gctgggttcc ttagaggaga caaggctcatc tcctacaatg catgtgctgt tcagatgttc 300  
 ttctttgtag ccttgggccac ggtggaaaat tacttgtttg cctcaatggc ctatgaccgc 360  
 tatgcagcag tgtgcaaacc cctacactac accaccacca tgacggccag tgtaggtgcc 420  
 tgtctggccc taggctcata tgtctgtggc ttcctaaatg cctcattcca cattgggggc 480  
 atattcagtc tctctttctg taaatccaat ctggtacatc actttttctg tgatgttcca 540  
 gcagtcattg ctctgtcttg ctctgataaa cacactagtg aggtgattct gggtttttatg 600  
 tcaagcttta atatcttttt tgttcttcta gttatcttta tctcctactt gttcatattc 660

atcaccatct tgaagatgca ttcagctaag ggacaccaaa aagcattgtc cacctgtgcc 720  
tctcacttca ctgcagtctc cgtcttctat gggacagtaa tcttcatcta cttgcagccc 780  
agctccagcc actccatgga cacagacaaa atggcatctg tgttctatgc tatgatcatc 840  
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aaagtgttga gaaggcaaaa atttctataa 930

<210> 369  
<211> 308  
<212> PRT  
<213> Homo sapiens

<400> 369  
Met Asp Thr Gly Asn Lys Thr Leu Pro Gln Asp Phe Leu Leu Leu Gly  
1 5 10 15  
Phe Pro Gly Ser Gln Thr Leu Gln Leu Ser Leu Phe Met Leu Phe Leu  
20 25 30  
Val Met Tyr Ile Leu Thr Val Ser Gly Asn Val Ala Ile Leu Met Leu  
35 40 45  
Val Ser Thr Ser His Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60  
Asn Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Ala Val Pro Lys  
65 70 75 80  
Ala Leu Ala Ile Leu Leu Gly Arg Ser Gln Thr Ile Ser Phe Thr Ser  
85 90 95  
Cys Leu Leu Gln Met Tyr Phe Val Phe Ser Leu Gly Cys Thr Glu Tyr  
100 105 110  
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Cys Leu Ala Ile Cys Tyr  
115 120 125  
Pro Leu His Tyr Gly Ala Ile Met Ser Ser Leu Leu Ser Ala Gln Leu  
130 135 140  
Ala Leu Gly Ser Trp Val Cys Gly Phe Val Ala Ile Ala Val Pro Thr  
145 150 155 160  
Ala Leu Ile Ser Gly Leu Ser Phe Cys Gly Pro Arg Ala Ile Asn His  
165 170 175  
Phe Phe Cys Asp Ile Ala Pro Trp Ile Ala Leu Ala Cys Thr Asn Thr  
180 185 190  
Gln Ala Val Glu Leu Val Ala Phe Val Ile Ala Val Val Val Ile Leu  
195 200 205  
Ser Ser Cys Leu Ile Thr Phe Val Ser Tyr Val Tyr Ile Ile Ser Thr  
210 215 220  
Ile Leu Arg Ile Pro Ser Ala Ser Gly Arg Ser Lys Ala Phe Ser Thr  
225 230 235 240  
Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly Ser Thr Val  
245 250 255

Phe Leu His Val Arg Thr Ser Ile Lys Asp Ala Leu Asp Leu Ile Lys  
 260 265 270

Ala Val His Val Leu Asn Thr Val Val Thr Pro Val Leu Asn Pro Phe  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Glu Val Arg Glu Thr Leu Leu Lys Lys  
 290 295 300

Trp Lys Gly Lys  
 305

<210> 370  
 <211> 927  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
 atggacacag gcaacaaaaac tctgccccag gactttctct tactgggctt tcctgggttct 60  
 caaactcttc agctctctct ctttatgctt tttctgggtga tgtacatcct cacagttagt 120  
 ggtaatgtgg ctatcttgat gttgggtgagc acctcccatc agttgcatac ccccatgtac 180  
 ttctttctga gcaacctctc cttcctggag atttgggtata ccacagcagc agtgcccaaa 240  
 gcaactggcca tcctactggg gagaagtcag accatatcat ttacaagctg tcttttgcag 300  
 atgtactttg ttttctcatt aggtgcaca gagtaacttc tcctggcagc catggccttat 360  
 gaccgctgtc ttgccatctg ctatccttta cactacggag ccacatgag tagcctgctc 420  
 tcagcgcagc tggccctggg ctccctgggtg tgtgggttctg tggccattgc agtgcccaca 480  
 gccctcatca gtggcctgtc cttctgtggc ccccgtgcca tcaaccactt cttctgtgac 540  
 attgcaccct ggattgccct ggccctgcacc aacacacagg cagtagagct tgtggccttt 600  
 gtgattgctg ttgtggttat cctgagttca tgcctcatca cctttgtctc ctatgtgtac 660  
 atcatcagca ccacctcag gatccccctc gccagtggcc ggagcaaaagc cttctccacg 720  
 tgctcctcgc atctcaccgt ggtgctcatt tggatatgggt ccacagtttt ctttcacgtc 780  
 cgcacctcta tcaaagatgc cttggatctg atcaaagctg tccacgtcct gaacactgtg 840  
 gtgactccag ttttaaacc cttcatctat acgcttcgta ataaggaagt aagagagact 900  
 ctgctgaaga aatggaaggg aaaataa 927

<210> 371  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Thr Arg Lys Asn Tyr Thr Ser Leu Thr Glu Phe Val Leu Leu Gly  
 1 5 10 15  
 Leu Ala Asp Thr Leu Glu Leu Gln Ile Ile Leu Phe Leu Phe Phe Leu  
 20 25 30  
 Val Ile Tyr Thr Leu Thr Val Leu Gly Asn Leu Gly Met Ile Leu Leu  
 35 40 45  
 Ile Arg Ile Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60  
 Asn Leu Ser Phe Val Asp Val Cys Asn Ser Thr Thr Ile Thr Pro Lys  
 65 70 75 80  
 Met Leu Ala Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly  
 85 90 95

Cys Phe Leu Gln Met Tyr Phe Phe Ile Ser Leu Ala Thr Thr Glu Cys  
 100 105 110  
 Ile Leu Phe Gly Leu Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Arg  
 115 120 125  
 Pro Leu Leu Tyr Ser Leu Ile Met Ser Arg Thr Val Tyr Leu Lys Met  
 130 135 140  
 Ala Ala Gly Ala Phe Ala Ala Gly Leu Leu Asn Phe Met Val Asn Thr  
 145 150 155 160  
 Ser His Val Ser Ser Leu Ser Phe Cys Asp Ser Asn Val Ile His His  
 165 170 175  
 Phe Phe Cys Asp Ser Pro Pro Leu Phe Lys Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Ile Leu Lys Glu Ser Ile Ser Ser Ile Leu Ala Gly Val Asn Ile Val  
 195 200 205  
 Gly Thr Leu Leu Val Ile Leu Ser Ser Tyr Ser Tyr Val Leu Phe Ser  
 210 215 220  
 Ile Phe Ser Met His Ser Gly Glu Gly Arg His Arg Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ala Ile Ile Leu Phe Tyr Ala Thr Cys Ile  
 245 250 255  
 Tyr Thr Tyr Leu Arg Pro Ser Ser Ser Tyr Ser Leu Asn Gln Asp Lys  
 260 265 270  
 Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Ser Lys Glu Val Lys Lys Ala Leu Ala Asn Val  
 290 295 300  
 Ile Ser Arg Lys Arg Thr Ser Ser Phe Leu  
 305 310

<210> 372  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 atgaccagaa aaaattatac ctcaactgact gagttcgtcc tattggggatt agcagacacg 60  
 ctggagctac agattatcct ctttttgttt tttcttgtga tttatacact tacagtactg 120  
 ggaaatctcg ggatgatcct cttaatcagg atcgattccc agcttcacac acccatgtat 180  
 ttcttctctgg ctaacctgtc ctttgtggac gtttgttaact caactaccat caccctaaag 240  
 atgctggcag atttattatc agagaagaaa accatctctt ttgctggctg cttcctacag 300  
 atgtacttct ttatctccct ggcgacaacc gaatgcattcc tctttgggtt aatggcctat 360  
 gacagggtatg cggccatatg tcgcccgtg ctttactcct tgatcatgtc caggaccgtc 420  
 tacctaaaaa tggcagccgg ggcttttgcg gcagggttgc tgaacttcat ggtcaacaca 480  
 agccatgtca gcagcttgc attctgtgac tccaatgtca tccatcactt cttctgtgac 540  
 agtccccac ttttcaagct ctcttgttct gacacaatcc tgaaagaaag cataagttct 600  
 attttggctg gtgtgaatat tgtggggact ctgcttgc tctctcctc ctactcctac 660  
 gttctcttct ccattttttc tatgcattcg ggggagggga ggcacagagc tttctccacg 720

tgtgcctctc acctgacagc cataattctg ttctatgcc a cctgcatcta tacttacctg 780  
agacctagtt ccagctactc cctgaatcag gacaaagtgg cttctgtgtt ctacacagtg 840  
gtgattccca tgttgaatcc tctgatctac agcctcagga gtaaggaagt aaagaaggct 900  
ttagcgaatg taattagcag gaaaaggacc tcttcctttc tgtga 945

<210> 373  
<211> 318  
<212> PRT  
<213> Homo sapiens

<400> 373

Met	Glu	Trp	Glu	Asn	His	Thr	Ile	Leu	Val	Glu	Phe	Phe	Leu	Lys	Gly	1		5		10				15
Leu	Ser	Gly	His	Pro	Arg	Leu	Glu	Leu	Leu	Phe	Phe	Val	Leu	Ile	Phe		20		25				30	
Ile	Met	Tyr	Val	Val	Ile	Leu	Leu	Gly	Asn	Gly	Thr	Leu	Ile	Leu	Ile		35		40				45	
Ser	Ile	Leu	Asp	Pro	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly		50		55			60		
Asn	Leu	Ser	Phe	Leu	Asp	Ile	Cys	Tyr	Thr	Thr	Thr	Ser	Ile	Pro	Ser		65		70			75	80	
Thr	Leu	Val	Ser	Phe	Leu	Ser	Glu	Arg	Lys	Thr	Ile	Ser	Leu	Ser	Gly			85		90			95	
Cys	Ala	Val	Gln	Met	Phe	Leu	Gly	Leu	Ala	Met	Gly	Thr	Thr	Glu	Cys		100		105			110		
Val	Leu	Leu	Gly	Met	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		115		120			125		
Pro	Leu	Arg	Tyr	Pro	Ile	Ile	Met	Ser	Lys	Asp	Ala	Tyr	Val	Pro	Met		130		135			140		
Ala	Ala	Gly	Ser	Trp	Ile	Ile	Gly	Ala	Val	Asn	Ser	Ala	Val	Gln	Ser		145		150			155	160	
Val	Phe	Val	Val	Gln	Leu	Pro	Phe	Cys	Arg	Asn	Asn	Ile	Ile	Asn	His			165		170			175	
Phe	Thr	Cys	Glu	Ile	Leu	Ala	Val	Met	Lys	Leu	Ala	Cys	Ala	Asp	Ile		180		185			190		
Ser	Asp	Asn	Glu	Phe	Ile	Met	Leu	Val	Ala	Thr	Thr	Leu	Phe	Ile	Leu		195		200			205		
Thr	Pro	Leu	Leu	Leu	Ile	Ile	Val	Ser	Tyr	Thr	Leu	Ile	Ile	Val	Ser		210		215			220		
Ile	Phe	Lys	Ile	Ser	Ser	Ser	Glu	Gly	Arg	Ser	Lys	Ala	Ser	Ser	Thr		225		230			235	240	
Cys	Ser	Ala	His	Leu	Thr	Val	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Ile	Leu			245		250			255	
Phe	Met	Tyr	Met	Lys	Pro	Lys	Ser	Lys	Glu	Thr	Leu	Asn	Ser	Asp	Asp									

260

265

270

Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Glu Ala Val Lys His Leu Leu Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

&lt;210&gt; 374

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 374

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atggaatggg aaaaccacac cattctggtg gaattttttc tgaagggact ttctgggtcac 60
ccaagacttg agttactctt ttttgtgctc atcttcataa tgtatgtggt catccttctg 120
gggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180
ttctttctgg ggaacctctc cttcttggac atctgctaca ccaccacctc tattccctcc 240
acgctagtga gcttccttcc agaaagaaag accatttccc tttctggctg tgcagtgcag 300
atgttcctcg gcttgcccat ggggacaaca gagtgtgtgc ttctgggcat gatggccttt 360
gaccgctatg tggctatctg caacctctcg agatatccca tcatcatgag taaggatgcc 420
tatgtaccca tggcagctgg gtcttgatc ataggagctg tcaattctgc agtacaatca 480
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aaggatgtga aagaggcagt aaaacaccta ctgaacagaa gggtctttag caagtga 957

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&lt;210&gt; 375

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 375

Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Ser Leu Ala Met Gly Thr Thr Glu Cys

100	105	110
Val Leu Leu Gly Val Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn		
115	120	125
Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met		
130	135	140
Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Thr		
145	150	155
Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His		
165	170	175
Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile		
180	185	190
Ser Gly Asn Glu Phe Ile Leu Leu Val Thr Thr Thr Leu Phe Leu Leu		
195	200	205
Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Leu Ser		
210	215	220
Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Pro Ser Ser Thr		
225	230	235
Cys Ser Ala Arg Leu Thr Val Val Ile Thr Phe Cys Gly Thr Ile Phe		
245	250	255
Leu Met Tyr Met Lys Pro Lys Ser Gln Glu Thr Leu Asn Ser Asp Asp		
260	265	270
Leu Asp Ala Thr Asp Lys Leu Ile Phe Ile Phe Tyr Arg Val Met Thr		
275	280	285
Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys		
290	295	300
Glu Ala Val Lys His Leu Leu Arg Arg Lys Asn Phe Asn Lys		
305	310	315

<210> 376  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 376  
 atggaatggg aaaaccacac cattctggtg gaattttttc tgaagggact ttctgggtcac 60  
 ccaagacttg agttactctt ttttgtgctc atcttcataa tgtatgtggt catccttctg 120  
 gggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180  
 ttctttctgg ggaacctctc cttcttggac atctgtaca ccaccacctc tattccctcc 240  
 acgctagtga gcttcctttc agaaagaaag accatttccc tttctggctg tgcagtgcag 300  
 atgttcctca gcttgccat ggggacaaca gagtgtgtgc ttctgggcgt gatggccttt 360  
 gaccgctatg tggctatctg caacctctg agatatccca tcatcatgag taaggatgcc 420  
 tatgtaccca tggcagctgg gtcctggatc ataggagctg tcaattctgc agtacaacaa 480  
 gtgtttgtgg tacaattgcc tttctgcagg aataacatca tcaatcattt cacctgtgaa 540  
 attctagctg tcatgaaact ggcctgtgct gacatctcag gcaatgagtt catcctgctt 600  
 gtgaccacaa cattgttctt attgacacct ttgttattaa ttattgtctc ttacacgtta 660  
 atcattttga gcatcttcaa aattagctct tcggagggga gaagcaaacc ttctctacc 720  
 tgctcagctc gtctgactgt ggtgataaca ttctgtggga ccatcttctt catgtacatg 780

aagcccaagt ctcaagagac acttaattca gatgacttgg atgccactga caaacttata 840  
 ttcataattct acaggggtgat gactcccatg atgaatcctt taatctacag tcttagaaaac 900  
 aaggatgtga aggaggcagt aaaacaccta ctgagaagaa aaaatttttaa caagtaa 957

<210> 377  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 377  
 Met Lys Arg Gln Asn Gln Ser Cys Val Val Glu Phe Ile Leu Leu Gly  
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 Phe Ser Asn Phe Pro Glu Leu Gln Val Gln Leu Phe Gly Val Phe Leu  
 20 25 30  
 Val Ile Tyr Val Val Thr Leu Met Gly Asn Ala Ile Ile Thr Val Ile  
 35 40 45  
 Ile Ser Leu Asn Gln Ser Leu His Val Pro Met Tyr Leu Phe Leu Leu  
 50 55 60  
 Asn Leu Ser Val Val Glu Val Ser Phe Ser Ala Val Ile Thr Pro Glu  
 65 70 75 80  
 Met Leu Val Val Leu Ser Thr Glu Lys Thr Met Ile Ser Phe Val Gly  
 85 90 95  
 Cys Phe Ala Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Thr Glu Cys  
 100 105 110  
 Phe Leu Leu Gly Ala Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His  
 115 120 125  
 Pro Leu Asn Tyr Pro Val Ile Met Asn Arg Gly Val Phe Met Lys Leu  
 130 135 140  
 Val Ile Phe Ser Trp Ile Ser Gly Ile Met Val Ala Thr Val Gln Thr  
 145 150 155 160  
 Thr Trp Val Phe Ser Phe Pro Phe Cys Gly Pro Asn Glu Ile Asn His  
 165 170 175  
 Leu Phe Cys Glu Thr Pro Pro Val Leu Glu Leu Val Cys Ala Asp Thr  
 180 185 190  
 Phe Leu Phe Glu Ile Tyr Ala Phe Thr Gly Thr Ile Leu Ile Val Met  
 195 200 205  
 Val Pro Phe Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala  
 210 215 220  
 Ile Leu Lys Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Asn  
 245 250 255  
 Met Thr Tyr Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys  
 260 265 270



Leu Ile Ser Leu Ala Tyr Thr Leu Leu Thr Pro Leu Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Ser Glu Met Lys Arg Thr Leu Ile Lys Leu  
290 295 300

Trp Arg Arg Lys Val Ile Leu His Thr Phe  
305 310

<210> 378

<211> 945

<212> DNA

<213> Homo sapiens

<400> 378

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ggaaatgcca	tcattacagt	catcatctcc	ttaaaccaga	gcctccacgt	tcccatgtac	180
ctgttcctcc	tgaacctatc	tgtgggtggag	gtgagtttca	gtgcagtcac	tacgcctgaa	240
atgctgggtg	tgctctctac	tgagaaaact	atgatttctt	ttgtgggctg	ttttgcacag	300
atgtatttca	tccttctttt	tggtgggact	gaatgttttc	tcctgggagc	gatggcttat	360
gaccgatttg	ctgcaatttg	ccatcctctg	aactaccag	tgattatgaa	cagaggggtt	420
tttatgaaat	tagtaatat	ctcatggatc	tcagggatca	tggtggctac	tgtgcagacc	480
acttgggtat	ttagttttcc	atgttgtggc	cccaatgaaa	ttaatcatct	cttctgtgag	540
actcccccg	tactagagct	tgtgtgtgca	gacaccttct	tatttgaaat	ctatgccttc	600
acaggcacca	ttttgattgt	tatggttcct	ttcttggtga	tcctcttgtc	ttacattcga	660
gttctgtttg	ccatcctgaa	gatgccatca	actactggga	gacaaaaggc	cttttccacc	720
tgtgcctctc	acctcacatc	tgtgaccctg	ttctatggca	cagccaatat	gacttattta	780
caaccctaat	ctggctactc	acccgaaacc	aagaaactga	tctcattggc	ttacacgttg	840
cttacccttc	tgctcaatcc	gctcatctat	agcttacgaa	acagtgagat	gaagaggact	900
ttgataaaac	tatggcggaag	aaaagtgatt	ttacacacat	tctga		945

<210> 379

<211> 309

<212> PRT

<213> Homo sapiens

<400> 379

Met Glu Lys Lys Lys Asn Val Thr Glu Phe Ile Leu Ile Gly Leu Thr  
1 5 10 15

Gln Asn Pro Ile Met Glu Lys Val Thr Phe Val Val Phe Leu Val Leu  
20 25 30

Tyr Met Ile Thr Leu Ser Gly Asn Leu Leu Ile Val Val Thr Ile Thr  
35 40 45

Thr Ser Gln Ala Leu Ser Ser Pro Met Tyr Phe Phe Leu Thr His Leu  
50 55 60

Ser Leu Ile Asp Thr Val Tyr Ser Ser Ser Ser Ala Pro Lys Leu Ile  
65 70 75 80

Val Asp Ser Phe Gln Glu Lys Lys Ile Ile Ser Phe Asn Gly Cys Met  
85 90 95

Ala Gln Ala Tyr Ala Glu His Ile Phe Gly Ala Thr Glu Ile Ile Leu  
100 105 110

Leu Thr Val Met Ala Cys Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 Asn Tyr Thr Thr Ile Met Ser His Ser Leu Cys Ile Leu Leu Val Ala  
 130 135 140  
 Val Ala Trp Val Gly Gly Phe Leu His Ala Thr Ile Gln Ile Leu Phe  
 145 150 155 160  
 Thr Val Trp Leu Pro Phe Cys Gly Pro Asn Val Ile Gly His Phe Met  
 165 170 175  
 Cys Asp Leu Tyr Pro Leu Leu Lys Leu Val Cys Ile Asp Thr His Thr  
 180 185 190  
 Leu Gly Leu Phe Val Ala Val Asn Ser Gly Phe Ile Cys Leu Leu Asn  
 195 200 205  
 Phe Leu Ile Leu Val Val Ser Tyr Val Ile Ile Leu Arg Ser Leu Lys  
 210 215 220  
 Asn Asn Ser Leu Glu Gly Arg Cys Lys Ala Leu Ser Thr Cys Ile Ser  
 225 230 235 240  
 His Ile Ile Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Val Tyr  
 245 250 255  
 Leu Arg Ser Val Thr Thr Leu Pro Ile Asp Lys Ala Val Ala Val Phe  
 260 265 270  
 Tyr Thr Met Val Val Pro Met Leu Asn Pro Val Val Tyr Thr Leu Arg  
 275 280 285  
 Asn Ala Glu Val Lys Ser Ala Ile Arg Lys Leu Trp Arg Lys Lys Val  
 290 295 300  
 Thr Ser Asp Asn Asp  
 305

<210> 380  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 380  
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 ctgctcattg tggttaccat taccaccagc caggctctga gctcccccat gtacttcttc 180  
 ctgaccacc tttctttgat agacacagtt tattcttctt cttcagctcc taagttgatt 240  
 gtggattcct ttcaagagaa gaaaatcatc tcctttaatg ggtgtatggc tcaagcctat 300  
 gcagaacaca tttttggtgc tactgagatc atcctgctga cagtgtatggc ctgtgactgc 360  
 tatgtggcca tctgcaaacc tctgaactac acaaccatta tgagccacag cctgtgcatt 420  
 ctcttggtgg cagtggcctg ggtgggagga tttcttcatg caactattca gattctcttt 480  
 acagtatggc tgcccttctg tggccccaat gtcataggcc acttcatgtg tgacttgtaac 540  
 ccattgttaa aacttgtttg catagacact catacccttg gtctctttgt tgctgtgaac 600  
 agtgggttta tctgcttatt aaacttctt atcttggtgg tatcctatgt gatcatcttg 660  
 agatctttaa agaacaatag cttggagggg aggtgtaaag ccctctccac ctgtatttct 720  
 cacatcatag tagttgtctt attctttgtg ccctgtatat ttgtgtatct gcgctcagtg 780  
 accactctgc ccattgataa agctgttgct gtattttata ctatggtggg cccaatgtta 840

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 agaaaaaaaag tgacttcaga taatgattaa 930

<210> 381  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 381  
 Met Glu Ser Glu Asn Arg Thr Val Ile Arg Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Leu Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Val Leu  
 20 25 30  
 Ile Phe Tyr Phe Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
 35 40 45  
 Ile Lys Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Phe Phe Leu Gly  
 50 55 60  
 Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Thr Val Ala Pro Arg  
 65 70 75 80  
 Met Leu Val Asp Phe Leu Ser Ala Lys Lys Ile Ile Ser Tyr Arg Gly  
 85 90 95  
 Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly  
 100 105 110  
 Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg  
 115 120 125  
 Pro Leu His Tyr Pro Thr Val Met Asn Pro Arg Thr Cys Tyr Ala Met  
 130 135 140  
 Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val  
 145 150 155 160  
 Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn  
 165 170 175  
 Phe Phe Cys Asp Val Pro Gln Val Ile Lys Leu Ala Cys Thr Asp Thr  
 180 185 190  
 Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu  
 195 200 205  
 Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys Arg  
 210 215 220  
 Ile Arg Gly Ser Ser Ser Glu Ala Lys Asn Lys Ala Met Ser Thr Cys  
 225 230 235 240  
 Ile Thr His Ile Ile Val Ile Phe Phe Met Phe Gly Pro Gly Ile Phe  
 245 250 255  
 Ile Tyr Thr Arg Pro Phe Arg Ala Phe Pro Ala Asp Lys Val Val Ser  
 260 265 270

Leu Phe His Thr Val Ile Phe Pro Leu Leu Asn Pro Val Ile Tyr Thr  
275 280 285

Leu Arg Asn Gln Glu Val Lys Ala Ser Met Lys Lys Val Phe Asn Lys  
290 295 300

His Ile Ala  
305

<210> 382  
<211> 924  
<212> DNA  
<213> Homo sapiens

<400> 382  
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caagatattc agctcctggt ctttgtgcta gttttaatat tctacttcat catcctccct 120  
ggaaattttc tcattatttt caccataaag tcagaccctg ggctcacagc cccctctat 180  
ttctttctgg gcaacttggc cttcctggat gcatcctact ccttcactgt ggctccccgg 240  
atgttggtgg acttcctctc tgcgaagaag ataatctcct acagaggctg catcactcag 300  
ctctttttct tgcacttctc tggaggaggg gagggattac tccttgttgt gatggccttt 360  
gaccgctaca tcgccatctg ccggcctctg cactatccta ctgtcatgaa ccctagaacc 420  
tgctatgcaa tgatgttggc tctgtggctt ggggggttttg tcactccat tatccagggtg 480  
gtcctcatcc tccgcttgcc tttttgtggc ccaaaccagc tggacaactt cttctgtgat 540  
gtccacagg tcataagct ggctgcacc gacacatttg tggaggagct tctgatggtc 600  
ttcaacagtg gcctgatgac actcctgtgc tttctggggc ttctggcctc ctatgcagtc 660  
attctttgtc gcatacgagg gtcttcttct gaggcacaaa acaaggccat gtccacgtgc 720  
atcacccata tcattgttat attcttcatg tttggacctg gcatcttcat ctacacgcgc 780  
cccttcaggg ctttcccagc tgacaagggtg gtttctctct tccacacagt gatttttctc 840  
ttgttgaatc ctgtcattta tacccttcgc aaccaggaag tgaaagcttc catgaaaaag 900  
gtgtttaata agcacatagc ctga 924

<210> 383  
<211> 309  
<212> PRT  
<213> Homo sapiens

<400> 383  
Met Ala Asn Arg Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
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Glu Asn Pro Lys Met Gln Lys Ile Ile Phe Val Val Phe Ser Val Ile  
20 25 30  
Tyr Ile Asn Ala Met Ile Gly Asn Val Leu Ile Val Val Thr Ile Thr  
35 40 45  
Ala Ser Pro Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Ala Tyr Leu  
50 55 60  
Ser Phe Ile Asp Ala Cys Tyr Ser Ser Val Asn Thr Pro Lys Leu Ile  
65 70 75 80  
Thr Asp Ser Leu Tyr Glu Asn Lys Thr Ile Leu Phe Asn Gly Cys Met  
85 90 95  
Thr Gln Val Phe Gly Glu His Phe Phe Arg Gly Val Glu Val Ile Leu  
100 105 110

Leu Thr Val Met Ala Tyr Asp His Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 His Tyr Thr Thr Ile Met Lys Gln His Val Cys Ser Leu Leu Val Gly  
 130 135 140  
 Val Ser Trp Val Gly Gly Phe Leu His Ala Thr Ile Gln Ile Leu Phe  
 145 150 155 160  
 Ile Cys Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Met  
 165 170 175  
 Cys Asp Leu Tyr Thr Leu Ile Asn Leu Ala Cys Thr Asn Thr His Thr  
 180 185 190  
 Leu Gly Leu Phe Ile Ala Ala Asn Ser Gly Phe Ile Cys Leu Leu Asn  
 195 200 205  
 Cys Leu Leu Leu Leu Val Ser Cys Val Val Ile Leu Tyr Ser Leu Lys  
 210 215 220  
 Thr His Ser Leu Glu Ala Arg His Glu Ala Leu Ser Thr Cys Val Ser  
 225 230 235 240  
 His Ile Thr Val Val Ile Leu Ser Phe Ile Pro Cys Ile Phe Val Tyr  
 245 250 255  
 Met Arg Pro Pro Ala Thr Leu Pro Ile Asp Lys Ala Val Ala Val Phe  
 260 265 270  
 Tyr Thr Met Ile Thr Ser Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285  
 Asn Ala Gln Met Lys Asn Ala Ile Arg Lys Leu Cys Ser Arg Lys Ala  
 290 295 300  
 Ile Ser Ser Val Lys  
 305

<210> 384  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 384  
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 atgcagaaaa tcatatttgt tgtgttttct gtcacttaca tcaacgccat gataggaaat 120  
 gtgctcattg tggtcacat cactgccagc ccatcactga gatccccat gtactttttc 180  
 ctggcctatc tctcctttat tgatgcctgc tattcctctg tcaatacccc taagctgac 240  
 acagattcac tctatgaaaa caagactatc ttattcaatg gatgtatgac tcaagtcttt 300  
 ggagaacatt ttttcagagg tgttgaggtc atcctactta ctgtaatggc ctatgaccac 360  
 tatgtggcca tctgcaagcc cttgcactat accaccatca tgaagcagca tgtttgtagc 420  
 ctgctagtgg gagtgtcatg ggtaggaggc tttcttcatg caaccataca gatcctcttc 480  
 atctgtcaat taccttttctg tggctcta at gtcatagatc actttatgtg tgatctctac 540  
 actttgatca atcttgccctg cactaatacc cacactctag gactcttcat tgctgccaac 600  
 agtgggttca tatgcctgtt aaactgtctc ttgctcctgg tctcctgcgt ggtcactac 660  
 tactccttaa agaccacag cttagaggca aggcataag ccctctctac ctgtgtctcc 720  
 cacatcacag ttgtcatctt atcctttata ccctgcata tttgtgtacat gagacctcca 780  
 gctactttac ccattgataa agcagttgct gtattctaca ctatgataac ttctatgtta 840  
 aacccttaa tctacacctt gaggaatgct caaatgaaaa atgccattag gaaattgtgt 900

<210> 385  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 385  
 Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly  
   1                  5                  10                  15  
 Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu  
                   20                  25                  30  
 Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val  
                   35                  40                  45  
 Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
                   50                  55                  60  
 Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu  
   65                  70                  75                  80  
 Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly  
                   85                  90                  95  
 Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys  
                   100                  105                  110  
 Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr  
                   115                  120                  125  
 Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met  
                   130                  135                  140  
 Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr  
   145                  150                  155                  160  
 Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His  
                   165                  170                  175  
 Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile  
                   180                  185                  190  
 Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val  
                   195                  200                  205  
 Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
                   210                  215                  220  
 Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
   225                  230                  235                  240  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
                   245                  250                  255  
 Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
                   260                  265                  270  
 Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr

275

280

285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
 305 310 315 320

&lt;210&gt; 386

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 386

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atggaaagga ccaacgattc cacgtcgaca gaatttttcc tggtagggct ttctgcccac 60
ccaaagctcc agacagtttt cttcgttcta attttgtgga tgtacctgat gatcctgctt 120
ggaaatggag tccttatctc agttatcatc tttgattctc acctgcacac ccccatgtat 180
ttcttcctct gtaatctttc cttcctcgac gtttgctaca caagttcctc tgtcccacta 240
attcttgcca gctttctggc agtaaagaaa aaggtttcc tctctgggtg tatggtgcaa 300
atgtttattt cttttgccat gggggccacg gagtgcata tcttaggcac gatggcactg 360
gaccgctatg tggccatctg ctaccactg agataccctg tcatcatgag caagggtgcc 420
tatgtggcca tggcagctgg gtccctgggtc actgggcttg tggactcagt agtgcagaca 480
gcttttgcaa tgcagttacc attctgtgct aataatgtca ttaaactatt tgtctgtgaa 540
attctggcta tcttgaaact ggctgtgct gatatttcaa tcaatgtgat tagtatgaca 600
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attgttgcca ctattctgag gattccttcc actgaaggaa aacataaggc cttctccacc 720
tgctcagccc acctgacagt ggtgattata ttctatggaa ccatcttctt catgtacgca 780
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aaggatgtaa aggctgctgt caaaaacata ctgtgtagga aaaacttttc tgatggaaaa 960
tga
  
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&lt;210&gt; 387

&lt;211&gt; 319

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 387

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Met Phe Pro Ala Asn Trp Thr Ser Val Lys Val Phe Phe Phe Leu Gly
  1 5 10 15
Phe Phe His Tyr Pro Lys Val Gln Val Ile Ile Phe Ala Val Cys Leu
  20 25 30
Leu Met Tyr Leu Ile Thr Leu Leu Gly Asn Ile Phe Leu Ile Ser Ile
  35 40 45
Thr Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser
  50 55 60
Asn Leu Ser Phe Leu Asp Ile Trp Tyr Ser Ser Ser Ala Leu Ser Pro
  65 70 75 80
Met Leu Ala Asn Phe Val Ser Gly Arg Asn Thr Ile Ser Phe Ser Gly
  85 90 95
Cys Ala Thr Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys
  100 105 110
  
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Val Leu Leu Pro Met Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Arg Tyr Pro Val Ile Met Asn Arg Arg Thr Cys Val Gln Ile  
 130 135 140  
 Ala Ala Gly Ser Trp Met Thr Gly Cys Leu Thr Ala Met Val Glu Met  
 145 150 155 160  
 Met Ser Val Leu Pro Leu Ser Leu Cys Gly Asn Ser Ile Ile Asn His  
 165 170 175  
 Phe Thr Cys Glu Ile Leu Ala Ile Leu Lys Leu Val Cys Val Asp Thr  
 180 185 190  
 Ser Leu Val Gln Leu Ile Met Leu Val Ile Ser Val Leu Leu Leu Pro  
 195 200 205  
 Met Pro Met Leu Leu Ile Cys Ile Ser Tyr Ala Phe Ile Leu Ala Ser  
 210 215 220  
 Ile Leu Arg Ile Ser Ser Val Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Thr Ala His Leu Met Val Val Val Leu Phe Tyr Gly Thr Ala Leu  
 245 250 255  
 Ser Met His Leu Lys Pro Ser Ala Val Asp Ser Gln Glu Ile Asp Lys  
 260 265 270  
 Phe Met Ala Leu Val Tyr Ala Gly Gln Thr Pro Met Leu Asn Pro Ile  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Val Ala Leu Lys Lys Leu  
 290 295 300  
 Leu Ile Arg Asn His Phe Asn Thr Ala Phe Ile Ser Ile Leu Lys  
 305 310 315

<210> 388  
 <211> 960  
 <212> DNA  
 <213> Homo sapiens

<400> 388  
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 ggcaacattt ttctgatctc catcaccatt ctagattccc acctgcacac ccctatgtac 180  
 ctcttctca gcaatctctc ctttctggac atctggtact cctcttctgc cctctctcca 240  
 atgctggcaa actttgtttc agggagaaac actatttcat tctcagggtg cgccactcag 300  
 atgtacctct cccttgccat gggctccact gagtgtgtgc tcctgcccac gatggcatat 360  
 gaccggtatg tggccatctg caacccccctg agataccctg tcatcatgaa taggagaacc 420  
 tgtgtgcaga ttgcagctgg ctctctggatg acaggctgtc tcatgcccac ggtggaaatg 480  
 atgtctgtgc tgccactgtc tctctgtggt aatagcatca tcaatcattt cacttgtgaa 540  
 attctggcca tcttgaaatt ggtttgtgtg gacacctccc tgggtgcagtt aatcatgctg 600  
 gtgatcagtg tacttcttct ccccatgcca atgtactca tttgtatctc ttatgcattt 660  
 atcctcgcca gtatcctgag aatcagctca gtggaaggct gaagtaaagc cttttcaacg 720  
 tgcacagccc acctgatggt ggtagttttg ttctatggga cggctctctc catgcacctg 780  
 aagccctccg ctgtagattc acaggaaata gacaaattta tggctttggt gtatgccgga 840



caaacccccca tgttgaatcc tatcatctat agtctacgga acaaagaggt gaaagtggcc 900  
 ttgaaaaaat tgctgattag aaatcatttt aatactgcct tcatttccat cctcaaataa 960

<210> 389  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Met Asp Lys Ile Asn Gln Thr Phe Val Arg Glu Phe Ile Leu Leu Gly  
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 Leu Ser Gly Tyr Pro Lys Leu Glu Ile Ile Phe Phe Ala Leu Ile Leu  
                   20                  25                  30  
 Val Met Tyr Val Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala  
           35                  40                  45  
 Ser Ile Leu Asp Ser Arg Leu His Met Pro Met Tyr Phe Phe Leu Gly  
       50                  55                  60  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Ile Pro Ser  
   65                  70                  75                  80  
 Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
                   85                  90                  95  
 Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
           100                  105                  110  
 Phe Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
   115                  120                  125  
 Pro Leu Arg Tyr Pro Ile Ile Met Asn Lys Val Val Tyr Val Leu Leu  
   130                  135                  140  
 Thr Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Thr Val Gln Thr  
  145                  150                  155                  160  
 Ser Leu Ala Met Arg Trp Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
           165                  170                  175  
 Phe Leu Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ser Asp Ile  
   180                  185                  190  
 Ser Val Asn Ile Val Thr Leu Ala Val Ser Asn Ile Ala Phe Leu Val  
   195                  200                  205  
 Leu Pro Leu Leu Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr  
   210                  215                  220  
 Ile Leu Arg Thr Asn Ser Ala Thr Gly Arg His Lys Ala Phe Ser Thr  
  225                  230                  235                  240  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
           245                  250                  255  
 Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Leu Gly Lys Asp Asn  
   260                  265                  270

Leu Gln Ala Thr Glu Gly Leu Val Ser Met Phe Tyr Gly Val Val Thr  
 275 280 285

Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Ile Lys Tyr Leu Leu Ser Arg Lys Ala Ile Asn Gln  
 305 310 315

<210> 390  
 <211> 957  
 <212> DNA  
 <213> Homo sapiens

<400> 390  
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 ggcaatggtg ttctgatcat agcaagcatc ttggattctc gtcttcacat gcccatgtac 180  
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 atgttctttg ggtttgcaat ggggtcaaca gaatgtttcc tccttggcat gatggcattt 360  
 gatcgttatg tggccatctg taacctctg agatacccca tcatcatgaa caaggtggtg 420  
 tatgtactgc tgacttctgt atcatggctt tctggtggaa tcaattcaac tgtgcaaaca 480  
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 atcttagctg tcctaaaatt agcttgttct gatatatctg tcaatattgt taccctagca 600  
 gtgtcaaata ttgctttcct agttcttctc ctgctcgtga tttttttctc ctatatgttc 660  
 atcctctaca ccattctgag aacgaactcg gccacaggaa gacacaaggc attttctaca 720  
 tgctcagctc acctgactgt ggtgatcata ttttatggta ccattctctt tatgtatgca 780  
 aaacctaaat cccaggacct ccttgggaaa gacaacttgc aagctacaga ggggcttgtt 840  
 tccatgtttt atgggggtgt gaccccatg ttaaacccca taatctatag cttgagaaat 900  
 aaagatgtaa aagctgctat aaaatatttg ctgagcagga aagctattaa ccagtaa 957

<210> 391  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 391  
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 Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
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 Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu  
 35 40 45  
 Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
 65 70 75 80  
 Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
 85 90 95  
 Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys  
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser  
 115 120 125  
 Pro Leu His Tyr Thr Val Ile Met Pro Lys Arg Leu Cys Leu Ala Leu  
 130 135 140  
 Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val  
 145 150 155 160  
 Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His  
 165 170 175  
 Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
 180 185 190  
 Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met  
 195 200 205  
 Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr  
 210 215 220  
 Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile  
 245 250 255  
 Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
 260 265 270  
 Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val  
 290 295 300  
 Met Gln Arg Arg Gln Asp Ser Arg  
 305 310

<210> 392  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 392  
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 ctggggaatg tggggatgct attgataatc cgcttgacc tccagcttca cactcccatg 180  
 tattttttcc ttactcacct gtcatttatt gacctcagtt actcaactgt cgtcacacct 240  
 aaaaccttag cgaacttact gacttccaac tatatttcct tcacgggctg ctttgcccag 300  
 atgttctgtt ttgtcttctt gggtactgct gaatgttatc ttctctctc aatggcctat 360  
 gatcgctatg cagcgatctg cagtctctca cactacacag ttattatgcc caaaaggctc 420  
 tgcctcgctc tcatcactgg gccttatgtg attggcttta tggactcctt tgtcaatgtg 480  
 gtttccatga gcagattgca tttctgtgac tcaaacataa ttcatcactt tttctgtgac 540  
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 tgcgtctctc atctcttggg agtcaccatc ttctatggaa ctatgatttt tacttactta 780  
 aagccaagaa agtcttatcc cttgggaaga gatcaagtgg ctctgtgtt ttatactatt 840  
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939

<210> 393

<211> 312

<212> PRT

<213> Homo sapiens

<400> 393

Met Met Gly Arg Arg Asn Asn Thr Asn Val Ala Asp Phe Ile Leu Met  
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Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe  
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Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu  
35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
85 90 95

Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys  
100 105 110

Tyr Leu Leu Ser Ser Met Ala His Asp Arg Tyr Ala Ala Ile Cys Ser  
115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu  
130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val  
145 150 155 160

Val Ser Met Ser Arg Leu His Phe Tyr Asp Ser Asn Val Ile His His  
165 170 175

Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
180 185 190

Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met  
195 200 205

Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr  
210 215 220

Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr  
225 230 235 240

Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile  
245 250 255

Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
260 265 270

Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Val Leu Asn Pro Leu

275

280

285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val  
 290 295 300

Met Gln Arg Arg Gln Asp Ser Arg  
 305 310

&lt;210&gt; 394

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 394

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tctgaagaga tccagatggc tctgtttatg ctatttctcc tgatatacct aattactatg 120
ctggggaatg tggggatgat attgataatc cgcctggacc tccagcttca cactcccatg 180
tattttttcc ttactcacct gtcattttatt gacctcagtt actcaactgt cgtcacacct 240
aaaaccttag cgaacttact gacttccaac tatatttcct ttacgggctg ctttgcccag 300
atgttccttt ttgccttctt gggtagctgt gaatgttacc ttctctcctc aatggcccat 360
gatcgctatg cagcgatctg cagtcctcta cactacacag ttattatgtc caaaaggctc 420
tgcctcgctc tcatacactg gccttatgtg attggcttta tagactcctt tgtcaacgtg 480
gtttccatga gcagattgca tttctacgac tcaaacgtaa ttcatacactt tttctgtgac 540
acttcccca ttttagctct gtcctgcact gatacatata acaccgaaat cctgatattc 600
attattgttg gttccaccct gatgggtgcc cttttcacia tatctgcata ctatgtgttc 660
attctcttta ccatcctgaa aattaattcc acttcaggaa agcagaaagc tttctctact 720
tgcgtctctc atctcttggg agtcaccatc ttttatagca ctctgatttt tactttattta 780
aaaccaagaa agtcttattc cttgggaaga gatcaagtgg cttctgtttt ttatactatt 840
gtgattcccg tgctgaatcc actcatttat agtcttagaa acaaagaggt gaaaaatgct 900
gtcatcagag tcatgcagag aagacaggac tccaggtaa 939

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&lt;210&gt; 395

&lt;211&gt; 310

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 395

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Met Ala Gly Asn Asn Phe Thr Glu Val Thr Val Phe Ile Leu Ser Gly
  1          5          10          15

Phe Ala Asn His Pro Glu Leu Gln Val Ser Leu Phe Leu Met Phe Leu
  20          25          30

Phe Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu
  35          40          45

Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
  50          55          60

Asn Leu Ala Phe Ile Asp Ile Phe Tyr Ser Ser Thr Val Thr Pro Lys
  65          70          75          80

Ala Leu Val Asn Phe Gln Ser Asn Arg Arg Ser Ile Ser Phe Val Gly
  85          90          95

Cys Phe Val Gln Met Tyr Phe Phe Val Gly Leu Val Cys Cys Glu Cys
  100          105          110

Phe Leu Leu Gly Ser Met Ala Tyr Asn Arg Tyr Ile Ala Ile Cys Asn

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115		120		125
Pro Leu Leu Tyr Ser Val Val Met Ser Gln Lys Val Ser Asn Trp Leu				
130		135		140
Gly Val Met Pro Tyr Val Ile Gly Phe Thr Ser Ser Leu Ile Ser Val				
145		150		155
Trp Val Ile Ser Ser Leu Ala Phe Cys Asp Ser Ser Ile Asn His Phe				
		165		170
Phe Cys Asp Thr Thr Ala Leu Leu Ala Leu Ser Cys Val Asp Thr Phe				
		180		185
Gly Thr Glu Met Val Ser Phe Val Leu Ala Gly Phe Thr Leu Leu Ser				
		195		200
Ser Leu Leu Ile Ile Thr Val Thr Tyr Ile Ile Ile Ile Ser Ala Ile				
		210		215
Leu Arg Ile Gln Ser Ala Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys				
		225		230
Ala Ser His Leu Met Ala Val Thr Ile Phe Tyr Gly Ser Leu Ile Phe				
		245		250
Thr Tyr Leu Gln Pro Asp Asn Thr Ser Ser Leu Thr Gln Ala Gln Val				
		260		265
Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile				
		275		280
Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu Leu Arg Val Ile				
		290		295
His Arg Lys Leu Phe Pro				
305		310		

<210> 396  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 396  
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 ggaaacctgg gactgatcac gttaatcaga atggattctc agcttcacac ccctatgtac 180  
 tttttcctga gcaatttagc atttattgac atattttact cctctactgt aacacctaag 240  
 gcattgggtga atttccaatc caatcggaga tccatctcct ttgttggctg ctttgttcaa 300  
 atgtactttt ttgttggatt ggtgtgttgt gagtgtttcc ttctgggatc aatggcctac 360  
 aatcgctaca tagcaatctg caatccctta ctgtattcag tagtcatgtc ccaaaaagtg 420  
 tccaactggc tgggagtaat gccatatgtg ataggcttca caagctcgct gatattctgtc 480  
 tgggtgataa gcagtttggc gttctgtgat tccagcatca atcatttttt ttgtgacacc 540  
 acagctcttt tagcactctc ctgtgtagat acattcggca cagaaatggg gagctttgtc 600  
 ttagctggat tcactcttct tagctctctc cttatcatca cagtcactta tatcatcatc 660  
 atctcagcca tcctgaggat ccagtcagca gcaggcaggc agaaggcctt ctccacctgc 720  
 gcatcccacc tcatggctgt aactatcttt tatgggtctc tgattttcac ctatttgcaa 780  
 cctgataaca catcatcgct gaccaggcg cagggtggcat ctgtattcta tacgattgtc 840  
 attcccagtc tgaatccact catctacagt ctgaggaaca aagatgtgaa aaatgctctt 900  
 ctgagagtca tacatagaaa actttttcca tga 933

<210> 397  
<211> 350  
<212> PRT  
<213> Homo sapiens

<400> 397

Met	Asn	Ser	Leu	Gly	Lys	Leu	Val	Ser	Met	Ile	Leu	Ser	Ala	His	Val	
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Phe	Cys	Tyr	Ser	Lys	Phe	Asn	Cys	Phe	Gly	Cys	Thr	His	Ser	Ile	Pro	
			20					25					30			
Ala	Leu	Gly	Ala	Asp	Pro	Pro	Gly	Gly	Met	Gly	Leu	Gly	Asn	Glu	Ser	
		35					40					45				
Ser	Leu	Met	Asp	Phe	Ile	Leu	Leu	Gly	Phe	Ser	Asp	His	Pro	Arg	Leu	
	50					55					60					
Glu	Ala	Val	Leu	Phe	Val	Phe	Val	Leu	Phe	Phe	Tyr	Leu	Leu	Thr	Leu	
65					70					75					80	
Val	Gly	Asn	Phe	Thr	Ile	Ile	Ile	Ile	Ser	Tyr	Leu	Asp	Pro	Pro	Leu	
				85					90					95		
His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Asn	Leu	Ser	Leu	Leu	Asp	Ile	
			100					105					110			
Cys	Phe	Thr	Thr	Ser	Leu	Ala	Pro	Gln	Thr	Leu	Val	Asn	Leu	Gln	Arg	
		115					120					125				
Pro	Lys	Lys	Thr	Ile	Thr	Tyr	Gly	Gly	Cys	Val	Ala	Gln	Leu	Tyr	Ile	
	130					135					140					
Ser	Leu	Ala	Leu	Gly	Ser	Thr	Glu	Cys	Ile	Leu	Leu	Ala	Asp	Met	Ala	
145					150					155					160	
Leu	Asp	Arg	Tyr	Ile	Ala	Val	Cys	Lys	Pro	Leu	His	Tyr	Val	Val	Ile	
				165					170					175		
Met	Asn	Pro	Arg	Leu	Cys	Gln	Gln	Leu	Ala	Ser	Ile	Ser	Trp	Leu	Ser	
			180					185					190			
Gly	Leu	Ala	Ser	Ser	Leu	Ile	His	Ala	Thr	Phe	Thr	Leu	Gln	Leu	Pro	
		195					200					205				
Leu	Cys	Gly	Asn	His	Arg	Leu	Asp	His	Phe	Ile	Cys	Glu	Val	Pro	Ala	
	210					215					220					
Leu	Leu	Lys	Leu	Ala	Cys	Val	Asp	Thr	Thr	Val	Asn	Glu	Leu	Val	Leu	
225					230					235					240	
Phe	Val	Val	Ser	Val	Leu	Phe	Val	Val	Ile	Pro	Pro	Ala	Leu	Ile	Ser	
				245					250					255		
Ile	Ser	Tyr	Gly	Phe	Ile	Thr	Gln	Ala	Val	Leu	Arg	Ile	Lys	Ser	Val	
			260					265					270			
Glu	Ala	Arg	His	Lys	Ala	Phe	Ser	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	
		275					280					285				

Val Ile Ile Phe Tyr Gly Thr Ile Ile Tyr Val Tyr Leu Gln Pro Ser  
290 295 300

Asp Ser Tyr Ala Gln Asp Gln Gly Lys Phe Ile Ser Leu Phe Tyr Thr  
305 310 315 320

Met Val Thr Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys  
325 330 335

Asp Met Lys Glu Ala Leu Arg Lys Leu Leu Ser Gly Lys Leu  
340 345 350

<210> 398  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 398  
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gggatgggat tgggcaatga gagttcccta atggatttca tccttctagg cttctcagac 180  
caccctcgtc tggaggtgt tctctttgta tttgtccttt tcttctacct cctgaccctt 240  
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<211> 323  
<212> PRT  
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<400> 399  
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Val Leu Tyr Thr Val Ile Val Leu Gly Asn Leu Leu Ile Ile Leu Thr  
35 40 45  
Val Thr Ser Asp Thr Ser Leu His Ser Pro Met Tyr Phe Leu Leu Gly  
50 55 60  
Asn Leu Ser Phe Val Asp Ile Cys Gln Ala Ser Phe Ala Thr Pro Lys  
65 70 75 80



Met Ile Ala Asp Phe Leu Ser Ala His Glu Thr Ile Ser Phe Ser Gly  
                     85                    90                    95  
 Cys Ile Ala Gln Ile Phe Phe Ile His Leu Phe Thr Gly Gly Glu Met  
                     100                    105                    110  
 Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys  
                     115                    120                    125  
 Pro Leu Tyr Tyr Val Val Ile Met Ser Arg Arg Thr Cys Thr Val Leu  
                     130                    135                    140  
 Val Met Ile Ser Trp Ala Val Ser Leu Val His Thr Leu Ser Gln Leu  
                     145                    150                    155                    160  
 Ser Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser  
                     165                    170                    175  
 Phe Phe Cys Asp Leu Pro Arg Val Thr Lys Leu Ala Cys Leu Asp Ser  
                     180                    185                    190  
 Tyr Ile Ile Glu Ile Leu Ile Val Val Asn Ser Gly Ile Leu Ser Leu  
                     195                    200                    205  
 Ser Thr Phe Ser Leu Leu Val Ser Ser Tyr Ile Ile Ile Leu Val Thr  
                     210                    215                    220  
 Val Trp Leu Lys Ser Ser Ala Ala Met Ala Lys Ala Phe Ser Thr Leu  
                     225                    230                    235                    240  
 Ala Ser His Ile Ala Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe  
                     245                    250                    255  
 Ile Tyr Val Trp Pro Phe Thr Ile Ser Pro Leu Asp Lys Phe Leu Ala  
                     260                    265                    270  
 Ile Phe Tyr Thr Val Phe Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr  
                     275                    280                    285  
 Leu Arg Asn Arg Asp Met Lys Ala Ala Val Arg Lys Ile Val Asn His  
                     290                    295                    300  
 Tyr Leu Arg Pro Arg Arg Ile Ser Glu Met Ser Leu Val Val Arg Thr  
                     305                    310                    315                    320  
 Ser Phe His

<210> 400  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
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gacaggatg tagccatag caaacctta tactatgtg tcatcatgag ccgaaggaca 420  
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gtcaatagtg gaattctttc cctaagcact ttctctctct tggtcagctc ctacatcatt 660  
attcttggtta cagtttggt caagtcttca gctgcaatgg caaaggcatt ttctacgctg 720  
gcttcccata ttgcagtagt aatattattc tttggacctt gcatcttcat ctatgtgtgg 780  
ccctttacca tctctccttt ggataaattt cttgccatat tttacactgt tttaccccc 840  
gtcctaaacc ccattattta tacactaagg aatagggata tgaaggctgc cgtaaggaaa 900  
attgtgaacc attacctgag gccaaggaga atttctgaaa tgtcactagt agtgagaact 960  
tcctttcatt aa 972

<210> 401  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 401  
Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly  
1 5 10 15  
Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser  
20 25 30  
Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile  
35 40 45  
Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser  
50 55 60  
Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys  
65 70 75 80  
Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly  
85 90 95  
Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met  
100 105 110  
Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys  
115 120 125  
Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe  
130 135 140  
Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu  
145 150 155 160  
Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser  
165 170 175  
Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr  
180 185 190  
Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu  
195 200 205  
Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly  
210 215 220

Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu  
225 230 235 240

Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr  
245 250 255

Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser  
260 265 270

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser  
275 280 285

Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn His  
290 295 300

His Val Asn Ser Trp Lys Asn  
305 310

<210> 402  
<211> 936  
<212> DNA  
<213> Homo sapiens

<400> 402  
atggctcaca caaatgaatc gatggtgtct gagtttgtac ttttgggact ctctaattcc 60  
tggggacttc aacttttctt tttcgccatc ttctctatag tctatgtgac atcagtgcta 120  
ggcaatgtct taattattgt cattatttct tttgactccc atttgaactc tcctatgtac 180  
ttcttgctca gtaatctttc tttcattgat atctgtcagt ctaactttgc caccaccaag 240  
atgcttgtag acttttttat tgagcgcaag actatctcct ttgaggggtg catggcccag 300  
atattcgttc ttcacagtgt tgttgggagt gagatgatgt tgcttgtagc tatggcatat 360  
gacagattta tagccatatt taagcctctg cactacagta caattatgaa ccggaggctc 420  
tgtgtaatth ttgtgtctat ttcttgggct gtgggctgtt ttcattctgt gagccacttg 480  
gcttttacag tggacctgcc attctgtggt cccaatgagg tggatagctt cttttgtgac 540  
cttcccttgg tgatagagct ggcttgcatt gatacatatg aaatggaaat tatgacccta 600  
acgaacagtg gcctgatatc attgagctgt ttcttggctt taattatttc ctacaccatc 660  
attttgatcg gtgtccgatg caggctcctc agtgggctcat ctaaggctct ttctacatta 720  
actgcccaca tcacagtggg cattcttttc ttcgggcctt gcatttattt ctatatatgg 780  
ccttttagca gacttctctg ggacaaaatt ctttctgtgt tctacactgt ttgtactccc 840  
ttgttgaacc ccatcatcta ctctttgagg aatgaagatg ttaaagcagc catgtggaag 900  
ctgagaaacc atcatgtgaa ctcttggaag aactag 936

<210> 403  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 403  
Met Asp Val Gly Asn Lys Ser Thr Met Ser Glu Phe Val Leu Leu Gly  
1 5 10 15  
Leu Ser Asn Ser Trp Glu Leu Gln Met Phe Phe Phe Met Val Phe Ser  
20 25 30  
Leu Leu Tyr Val Ala Thr Met Val Gly Asn Ser Leu Ile Val Ile Thr  
35 40 45  
Val Ile Val Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Thr  
50 55 60

Asn Leu Ser Ile Ile Asp Met Ser Leu Ala Ser Phe Ala Thr Pro Lys  
 65 70 75 80  
 Met Ile Thr Asp Tyr Leu Thr Gly His Lys Thr Ile Ser Phe Asp Gly  
 85 90 95  
 Cys Leu Thr Gln Ile Phe Phe Leu His Leu Phe Thr Gly Thr Glu Ile  
 100 105 110  
 Ile Leu Leu Met Ala Met Ser Phe Asp Arg Tyr Ile Ala Ile Cys Lys  
 115 120 125  
 Pro Leu His Tyr Ala Ser Val Ile Ser Pro Gln Val Cys Val Ala Leu  
 130 135 140  
 Val Val Ala Ser Trp Ile Met Gly Val Met His Ser Met Ser Gln Val  
 145 150 155 160  
 Ile Phe Ala Leu Thr Leu Pro Phe Cys Gly Pro Tyr Glu Val Asp Ser  
 165 170 175  
 Phe Phe Cys Asp Leu Pro Val Val Phe Gln Leu Ala Cys Val Asp Thr  
 180 185 190  
 Tyr Val Leu Gly Leu Phe Met Ile Ser Thr Ser Gly Ile Ile Ala Leu  
 195 200 205  
 Ser Cys Phe Ile Val Leu Phe Asn Ser Tyr Val Ile Val Leu Val Thr  
 210 215 220  
 Val Lys His His Ser Ser Arg Gly Ser Ser Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 Thr Ala His Phe Ile Val Val Phe Leu Phe Phe Gly Pro Cys Ile Phe  
 245 250 255  
 Ile Tyr Met Trp Pro Leu Ser Ser Phe Leu Thr Asp Lys Ile Leu Ser  
 260 265 270  
 Val Phe Tyr Thr Ile Phe Thr Pro Thr Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285  
 Leu Arg Asn Gln Glu Val Lys Ile Ala Met Arg Lys Leu Lys Asn Arg  
 290 295 300  
 Phe Leu Asn Phe Asn Lys Ala Met Pro Ser  
 305 310

<210> 404  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 404  
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 tgggaactac agatgttttt ctttatggtg ttttcattgc tttatgtggc aacaatgggtg 120  
 ggtaacagcc tcatagtcac cacagttata gtggaccctc acctacactc tcctatgtat 180  
 ttcctgctta ccaatctttc aatcattgat atgtctcttg cttctttcgc caccctaaag 240  
 atgattacag attacctaac aggtcacaaa accatctctt ttgatggctg ccttaccag 300  
 atattctttc tccacctttt cactggaact gagatcatct tactcatggc catgtccttt 360

gataggtata ttgcaatatg caagcccctg cactatgctt ctgtcattag tccccaggtg 420  
tgtgttgctc tcgtggtggc ttcctggatt atgggagtta tgcattcaat ggtcagggtc 480  
atatattgcc tcacgttacc attctgtggt ccctatgagg tagacagctt tttctgtgac 540  
cttcctgtgg tggtccagtt ggcttgtgtg gatacttatg ttctgggcct ctttatgac 600  
tcaacaagtg gcataattgc gttgtcctgt tttattgttt tatttaattc atatgttatt 660  
gtcctgggta ctgtgaagca tcattcttcc agaggatcat ctaaggccct ttctacttgt 720  
acagctcatt tcattgttgt cttcttgttc tttgggccat gcattctcat ctacatgtgg 780  
ccactaagca gctttctcac agacaagatt ctgtctgtgt tttataccat ctttactccc 840  
actctgaacc caataatcta tactttgagg aatcaagaag taaagatagc catgaggaaa 900  
ctgaaaaata ggtttctaaa ttttaataag gcaatgcctt catag 945

<210> 405

<211> 325

<212> PRT

<213> Homo sapiens

<400> 405

Met Leu Glu Ser Phe Gln Lys Ser Glu Gln Met Ala Trp Ser Asn Gln  
1 5 10 15

Ser Ala Val Thr Glu Phe Ile Leu Arg Gly Leu Ser Ser Ser Leu Glu  
20 25 30

Leu Gln Ile Phe Tyr Phe Leu Phe Phe Ser Ile Val Tyr Ala Ala Thr  
35 40 45

Val Leu Gly Asn Leu Leu Ile Val Val Thr Ile Ala Ser Glu Pro His  
50 55 60

Leu His Ser Pro Thr Tyr Phe Leu Leu Gly Asn Leu Ser Phe Ile Asp  
65 70 75 80

Met Ser Leu Ala Ser Phe Ala Thr Pro Lys Met Ile Ala Asp Phe Leu  
85 90 95

Arg Glu His Lys Ala Ile Ser Phe Glu Gly Cys Met Thr Gln Met Phe  
100 105 110

Phe Leu His Leu Leu Gly Gly Ala Glu Ile Val Leu Leu Ile Ser Met  
115 120 125

Ser Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Thr  
130 135 140

Ile Met Ser Arg Arg Met Cys Val Gly Leu Val Ile Leu Ser Trp Ile  
145 150 155 160

Val Gly Ile Phe His Ala Leu Ser Gln Leu Ala Phe Thr Val Asn Leu  
165 170 175

Pro Phe Cys Gly Pro Asn Glu Val Asp Ser Phe Phe Cys Asp Leu Pro  
180 185 190

Leu Val Ile Lys Leu Ala Cys Val Asp Thr Tyr Ile Leu Gly Val Phe  
195 200 205

Met Ile Ser Thr Ser Gly Met Ile Ala Leu Val Cys Phe Ile Leu Leu  
210 215 220

Val Ile Ser Tyr Thr Ile Ile Leu Val Thr Val Arg Gln Arg Ser Ser

225                      230                      235                      240  
 Gly Gly Ser Ser Lys Ala Leu Ser Thr Cys Ser Ala His Phe Thr Val  
                                  245                      250                      255  
 Val Thr Leu Phe Phe Gly Pro Cys Thr Phe Ile Tyr Val Trp Pro Phe  
                                  260                      265                      270  
 Thr Asn Phe Pro Ile Asp Lys Val Leu Ser Val Phe Tyr Thr Ile Tyr  
                                  275                      280                      285  
 Thr Pro Leu Leu Asn Pro Val Ile Tyr Thr Val Arg Asn Lys Asp Val  
                                  290                      295                      300  
 Lys Tyr Ser Met Arg Lys Leu Ser Ser His Ile Phe Lys Ser Arg Lys  
 305                      310                      315                      320  
 Thr Asp His Thr Pro  
                                  325

<210> 406  
 <211> 978  
 <212> DNA  
 <213> Homo sapiens

<400> 406  
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 gaattcatac tacggggtct gtccagttct ttagaactcc agattttcta cttcctggtt 120  
 ttctccatag tctatgcagc cactgtgctg gggaaccttc ttattgtggt caccattgca 180  
 tcagagccac accttcattc ccctacgtac tttctgctgg gcaatctctc cttcattgac 240  
 atgtccctgg cctcatttgc ccccccaaa atgattgcag acttccttag agaacacaaa 300  
 gccatctctt ttgaaggctg catgaccag atgttcttcc tacatctctt agggggtgct 360  
 gagattgtac tgctgatctc catgtccttt gataggtaag tggctatctg taagcctcta 420  
 cattacctaa caatcatgag ccgaagaatg tgtgttgggc ttgtgatact ttcctggatt 480  
 gtcggcatct tccatgctct gagtcagtta gcatttacag tgaatctgcc cttctgtgga 540  
 cccaatgaag tagacagttt cttttgtgac ctccctttgg tgattaaact tgcttgtgtc 600  
 gacacatata ttctgggggt gttcatgata tcaaccagtg gcatgattgc cctgggtgtgc 660  
 ttcacacctc tggatgatct ttacactatc atcctgggtca ccgttcggca gcgttctctc 720  
 ggtggatcct ccaaagccct ctccacgtgc agtgcccact ttactgttgt gacccttttc 780  
 tttyggccat gcactttcat ttatgtgtgg cctttcacaa atttcccaat agacaaagta 840  
 ctctcagtat tttataccat atacactccc ctcttgaatc cagtgatcta taccgttagg 900  
 aataaagatg tcaagtattc catgaggaaa ctaagcagcc atatctttaa atctaggaag 960  
 actgatcata ctctttaa                      978

<210> 407  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 407  
 Met Glu Thr Ala Asn Tyr Thr Lys Val Thr Glu Phe Val Leu Thr Gly  
   1                      5                      10                      15  
 Leu Ser Gln Thr Arg Glu Val Gln Leu Val Leu Phe Val Ile Phe Leu  
                                  20                      25                      30  
 Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr  
                                  35                      40                      45

Ile Arg Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60  
 Asn Leu Ala Leu Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Lys  
 65 70 75 80  
 Met Leu Ile Asp Phe Phe Val Glu Arg Lys Ile Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Ile Ala Gln Leu Phe Phe Leu His Phe Val Gly Ala Ser Glu Met  
 100 105 110  
 Phe Leu Leu Ile Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Arg  
 115 120 125  
 Pro Leu His Tyr Ala Thr Ile Met Asn Arg Arg Leu Cys Cys Ile Leu  
 130 135 140  
 Val Ala Leu Ser Trp Met Gly Gly Phe Ile His Ser Ile Ile Gln Val  
 145 150 155 160  
 Ala Leu Ile Val Arg Leu Pro Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175  
 Tyr Phe Cys Asp Ile Thr Gln Val Val Arg Ile Ala Cys Ala Asn Thr  
 180 185 190  
 Phe Pro Glu Glu Leu Val Met Ile Cys Ser Ser Gly Leu Ile Ser Val  
 195 200 205  
 Val Cys Phe Ile Ala Leu Leu Met Ser Tyr Ala Phe Leu Leu Ala Leu  
 210 215 220  
 Leu Lys Lys His Ser Gly Ser Asp Glu Asn Thr Asn Arg Ala Met Ser  
 225 230 235 240  
 Thr Cys Tyr Ser His Ile Thr Ile Val Val Leu Met Phe Gly Pro Ser  
 245 250 255  
 Ile Tyr Ile Tyr Ala Arg Pro Phe Asp Ser Phe Ser Leu Asp Lys Val  
 260 265 270  
 Val Ser Val Phe His Thr Val Ile Phe Pro Leu Leu Asn Pro Ile Ile  
 275 280 285  
 Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Met Arg Lys Val Val  
 290 295 300  
 Thr Lys Tyr Ile Leu Cys Glu Glu Lys  
 305 310

<210> 408

<211> 942

<212> DNA

<213> Homo sapiens

<400> 408

atggaaactg caaattacac caaggtgaca gaatttggtc tcaactggcct atcccagact 60  
 cgggaggtcc aactagtcct atttggtata tttctatcct tctatttggt catcctacca 120  
 ggaaatatcc ttatcatttg caccatcagg ctagaccctc atctgacttc tcctatgtat 180

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ttcctgttgg ctaatctggc ctccttgat atttggtact cttccattac agcccctaaa 240
atgctcatag acttctttgt ggagaggaag ataatttcct ttggtggatg cattgcacag 300
ctcttcttct tacactttgt tggggcttcg gagatgttct tgctcatagt gatggcctat 360
gaccgctatg ctgctatctg ccgacccctc cactatgcta ccatcatgaa tcgacgtctc 420
tgctgtatcc tgggtggctct ctcctggatg gggggcttca ttcattctat aatacagggtg 480
gctctcattg ttcgacttcc tttctgtggg cccaatgagt tagacagtta cttctgtgac 540
atcacacagg ttgtccggat tgcctgtgcc aacaccttcc cagaggagtt agtgatgac 600
tgtagtagtg gtctgatctc tgtggtgtgt ttcattgctc tgtaaatgtc ctatgccttc 660
cttctggcct tgctcaagaa acattcaggc tcagatgaga ataccaacag ggccatgtcc 720
acctgctatt cccacattac cattgtggtg ctaatgtttg ggccatccat ctacatttat 780
gctgccccat ttgactcatt ttccctagat aaagtgggtg ctgtgtttca tactgtaata 840
ttccctttac ttaatcccat tattttacaca ttgagaaaca aggaagtaaa ggcagccatg 900
aggaaggtgg tcaccaaata tattttgtgt gaagagaagt ga 942

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<210> 409

<211> 348

<212> PRT

<213> Homo sapiens

<400> 409

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Met Leu Thr Ser Leu Thr Asp Leu Cys Phe Ser Pro Ile Gln Val Ala
  1             5             10             15

Glu Ile Lys Ser Leu Pro Lys Ser Met Asn Glu Thr Asn His Ser Arg
          20             25             30

Val Thr Glu Phe Val Leu Leu Gly Leu Ser Ser Ser Arg Glu Leu Gln
          35             40             45

Pro Phe Leu Phe Leu Thr Phe Ser Leu Leu Tyr Leu Ala Ile Leu Leu
          50             55             60

Gly Asn Phe Leu Ile Ile Leu Thr Val Thr Ser Asp Ser Arg Leu His
          65             70             75             80

Thr Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser Phe Ile Asp Val Cys
          85             90             95

Val Ala Ser Phe Ala Thr Pro Lys Met Ile Ala Asp Phe Leu Val Glu
          100            105            110

Arg Lys Thr Ile Ser Phe Asp Ala Cys Leu Ala Gln Ile Phe Phe Val
          115            120            125

His Leu Phe Thr Gly Ser Glu Met Val Leu Leu Val Ser Met Ala Tyr
          130            135            140

Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Met Thr Val Met
          145            150            155            160

Ser Arg Arg Val Cys Val Val Leu Val Leu Ile Ser Trp Phe Val Gly
          165            170            175

Phe Ile His Thr Thr Ser Gln Leu Ala Phe Thr Val Asn Leu Pro Phe
          180            185            190

Cys Gly Pro Asn Lys Val Asp Ser Phe Phe Cys Asp Leu Pro Leu Val
          195            200            205

Thr Lys Leu Ala Cys Ile Asp Thr Tyr Val Val Ser Leu Leu Ile Val

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210	215	220
Ala Asp Ser Gly Phe Leu Ser Leu Ser Ser Phe Leu Leu Leu Val Val		
225	230	235 240
Ser Tyr Thr Val Ile Leu Val Thr Val Arg Asn Arg Ser Ser Ala Ser		
	245	250 255
Met Ala Lys Ala Arg Ser Thr Leu Thr Ala His Ile Thr Val Val Thr		
	260	265 270
Leu Phe Phe Gly Pro Cys Ile Phe Ile Tyr Val Trp Pro Phe Ser Ser		
	275	280 285
Tyr Ser Val Asp Lys Val Leu Ala Val Phe Tyr Thr Ile Phe Thr Leu		
	290	295 300
Ile Leu Asn Pro Val Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala		
305	310	315 320
Ala Met Ser Lys Leu Lys Ser Arg Tyr Leu Lys Pro Ser Gln Val Ser		
	325	330 335
Val Val Ile Arg Asn Val Leu Phe Leu Glu Thr Lys		
	340	345

<210> 410  
 <211> 1047  
 <212> DNA  
 <213> Homo sapiens

<400> 410  
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 ctgtctagtt caaggagct ccaacctttc ttgtttctta cattttcact actttatcta 180  
 gcaattctgt tgggcaactt tctcatcatc ctcactgtga cctcagattc ccgccttcac 240  
 acccccatgt actttctgct tgcaaacctg tcatattatag acgtatgtgt tgcctctttt 300  
 gctaccacctt aaatgattgc agactttctg gttgagcgca agactatttc ttttgatgcc 360  
 tgcctggccc agattttctt tgttcacttc ttcactggca gtgaaatggg gtccttagtt 420  
 tccatggcct atgaccgtta tgttgctata tgcaaacctc tccactacat gacagtcattg 480  
 agccgtcgtg tatgtgttgt gctcgtcttc atttcatggg ttgtgggctt catccatact 540  
 accagccagt tggcattcac tgttaatctg ccattttgtg gtcctaataa ggtagacagt 600  
 tttttctgtg accttctctt agtgaccaag ttagcctgca tagacactta tgttgtcagc 660  
 ttactaatag ttgcagatag tggttttctt tctctgagtt cctttctcct cttggttgtc 720  
 tctacactg taatacttgt tacagttagg aatcgctcct ctgcaagcat ggcgaaggcc 780  
 cgctccacat tgactgctca catcactgtg gtcactttat tctttggacc atgcattttc 840  
 atctatgtgt ggcccttcag cagttactca gttgacaaag tccttgctgt attctacacc 900  
 atcttcacgc ttattttaaa ccctgtaatc tacacgctaa gaaacaaaga agtgaaggca 960  
 gctatgtcaa aactgaagag tcggtatctg aagcctagtc aggtttctgt agtcataaga 1020  
 aatgttcttt tctagaaac aaagtaa 1047

<210> 411  
 <211> 343  
 <212> PRT  
 <213> Homo sapiens

<400> 411  
 Met Lys Gln Tyr Ser Val Gly Asn Gln His Ser Asn Tyr Arg Ser Leu  
 1 5 10 15

Leu Phe Pro Phe Leu Cys Ser Gln Met Thr Gln Leu Thr Ala Ser Gly  
 20 25 30  
 Asn Gln Thr Met Val Thr Glu Phe Leu Phe Ser Met Phe Pro His Ala  
 35 40 45  
 His Arg Gly Gly Leu Leu Phe Phe Ile Pro Leu Leu Leu Ile Tyr Gly  
 50 55 60  
 Phe Ile Leu Thr Gly Asn Leu Ile Met Phe Ile Val Ile Gln Val Gly  
 65 70 75 80  
 Met Ala Leu His Thr Pro Leu Tyr Phe Phe Ile Ser Val Leu Ser Phe  
 85 90 95  
 Leu Glu Ile Cys Tyr Thr Thr Thr Thr Ile Pro Lys Met Leu Ser Cys  
 100 105 110  
 Leu Ile Ser Glu Gln Lys Ser Ile Ser Val Ala Gly Cys Leu Leu Gln  
 115 120 125  
 Met Tyr Phe Phe His Ser Leu Gly Ile Thr Glu Ser Cys Val Leu Thr  
 130 135 140  
 Ala Met Ala Ile Asp Arg Tyr Ile Ala Ile Cys Asn Pro Leu Arg Tyr  
 145 150 155 160  
 Pro Thr Ile Met Ile Pro Lys Leu Cys Ile Gln Leu Thr Val Gly Ser  
 165 170 175  
 Cys Phe Cys Gly Phe Leu Leu Val Leu Pro Glu Ile Ala Trp Ile Ser  
 180 185 190  
 Thr Leu Pro Phe Cys Gly Ser Asn Gln Ile His Gln Ile Phe Cys Asp  
 195 200 205  
 Phe Thr Pro Val Leu Ser Leu Ala Cys Thr Asp Thr Phe Leu Val Val  
 210 215 220  
 Ile Val Asp Ala Ile His Ala Ala Glu Ile Val Ala Ser Phe Leu Val  
 225 230 235 240  
 Ile Ala Leu Ser Tyr Ile Arg Ile Ile Ile Val Ile Leu Gly Met His  
 245 250 255  
 Ser Ala Glu Gly His His Lys Ala Phe Ser Thr Cys Ala Ala His Leu  
 260 265 270  
 Ala Val Phe Leu Leu Phe Phe Gly Ser Val Ala Val Met Tyr Leu Arg  
 275 280 285  
 Phe Ser Ala Thr Tyr Ser Val Phe Trp Asp Thr Ala Ile Ala Val Thr  
 290 295 300  
 Phe Val Ile Leu Ala Pro Phe Phe Asn Pro Ile Ile Tyr Ser Leu Lys  
 305 310 315 320  
 Asn Lys Asp Met Lys Glu Ala Ile Gly Arg Leu Phe His Tyr Gln Lys  
 325 330 335

Arg Ala Gly Trp Ala Gly Lys  
340

<210> 412  
<211> 1032  
<212> DNA  
<213> Homo sapiens

<400> 412  
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ctgtgttcac agatgacaca gttgacggcc agtgggaatc agacaatggg gactgagttc 120  
ctcttctcta tggtcccgca tgcgcacaga ggtggcctct tattctttat tcccttgctt 180  
ctcatctacg gatttatcct aactggaaac ctaataatgt tcattgtcat ccaggtgggc 240  
atggccctgc acacccttt gtatttcttt atcagtggtc tctccttcct ggagatctgc 300  
tataccacaa ccaccatccc caagatgctg tctgcctaa tcagttagca gaagagcatt 360  
tccgtggctg gctgcctcct gcagatgtac tttttccact cacttggtat cacagaaagc 420  
tgtgtcctga cagcaatggc cattgacagg tacatagcta tctgcaatcc actccgttac 480  
ccaaccatca tgattcccaa actttgtatc cagctgacag ttggatcctg cttttgtggc 540  
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cagatccacc agatattctg tgatttcaca cctgtgctga gcttggcctg cacagataca 660  
ttcctagtggt tcattgtgga tgccatccat gcagcggaaa ttgtagcctc cttcctgggtc 720  
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catcacaagg ccttttccac ctgtgctgct caccttgctg tgttcttgct attttttggc 840  
agtgtggctg tcatgtattt gagattctca gccacctact cagtgttttg ggacacagca 900  
attgctgtca cttttgttat ccttgctccc tttttcaacc ccatcatcta tagcctgaaa 960  
aacaaggaca tgaaagaggc tattggaagg cttttccact atcagaagag ggctgggttg 1020  
gctgggaaat ag 1032

<210> 413  
<211> 317  
<212> PRT  
<213> Homo sapiens

<400> 413  
Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly  
1 5 10 15  
Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe  
20 25 30  
Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr  
35 40 45  
Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly  
50 55 60  
His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg  
65 70 75 80  
Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly  
85 90 95  
Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys  
100 105 110  
Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly  
115 120 125  
Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu

130	135	140
Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu		
145	150	155 160
Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His		
	165	170 175
Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys		
	180	185 190
Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu		
	195	200 205
Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala		
	210	215 220
Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr		
225	230	235 240
Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu		
	245	250 255
Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys		
	260	265 270
Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala		
	275	280 285
Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr		
	290	295 300
Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp		
305	310	315

<210> 414  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 414  
 atgagaaatt tgagtggagg ccatgtcgag gagtttgtct tgggtgggttt ccctaccacg 60  
 cctcccctcc agctgtcctt ctttgtcctt ttttttgcaa ttaccttct gacattgttg 120  
 gagaatgcac ttattgtctt cacaatatgg cttgctccaa gccttcatcg tcccatgtac 180  
 tttttccttg gccatctctc tttcctggag ctatggtaca tcaatgtcac cattcctcgg 240  
 ctcttggcag cttttcttac ccaggatggg agagtctcct acgtagggtg catgacccaa 300  
 ctgtacttct ttattgcctt agcctgtact gaatgtgtgc tgttggcagt tatggcctat 360  
 gatcgctacc tggccatctg tggacccctc ctttacccta gtctcatgcc ttccagctcg 420  
 gccactcgcc ttgctgctgc ctcttggggc agtggcttct tcagctccat gatgaagctt 480  
 ctttttattt cccaattgtc ctactgtgga cccaacatta tcaaccactt tttctgtgat 540  
 atttccccac tactcaacct cacctgctct gacaaggagc aagcagagct agtagacttc 600  
 cttctggccc tgggtgatgat tctactcctt ctattggctg tggtttcatc atacactgcc 660  
 atcattgcag ccaccttgag gatccctacg tccaggggac gccacaaagc cttttccact 720  
 tgtgccgctc atctggcagt gggtgttatc tactactcct ccactctctt cacctatgca 780  
 cggccccggg ccatgtacac cttcaaccac aacaagatta tctctgtgct ctacactatc 840  
 attgtaccat tcttcaacct agccatctac tgcctgagga acaaggaggt gaaggaggcc 900  
 ttcaggaaga cagtgatggg cagatgtcac tatcctaggg atgttcagga ctga 954

<210> 415

<211> 313  
<212> PRT  
<213> Homo sapiens

<400> 415

Met	Gly	Gln	Thr	Asn	Val	Thr	Ser	Trp	Arg	Asp	Phe	Val	Phe	Leu	Gly		
1				5					10					15			
Phe	Ser	Ser	Ser	Gly	Glu	Leu	Gln	Leu	Leu	Leu	Phe	Ala	Leu	Phe	Leu		
			20					25					30				
Ser	Leu	Tyr	Leu	Val	Thr	Leu	Thr	Ser	Asn	Val	Phe	Ile	Ile	Ile	Ala		
		35					40					45					
Ile	Arg	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Ser		
	50					55					60						
Phe	Leu	Ser	Phe	Ser	Glu	Thr	Cys	Tyr	Thr	Leu	Gly	Ile	Ile	Pro	Arg		
65					70					75					80		
Met	Leu	Ser	Gly	Leu	Ala	Gly	Gly	Asp	Gln	Ala	Ile	Ser	Tyr	Val	Gly		
				85					90					95			
Cys	Ala	Ala	Gln	Met	Phe	Phe	Ser	Ala	Ser	Trp	Ala	Cys	Thr	Asn	Cys		
			100					105					110				
Phe	Leu	Leu	Ala	Ala	Met	Gly	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ala		
	115						120					125					
Pro	Leu	His	Tyr	Ala	Ser	His	Met	Asn	Pro	Thr	Leu	Cys	Ala	Gln	Leu		
	130					135					140						
Val	Ile	Thr	Ser	Phe	Leu	Thr	Gly	Tyr	Leu	Phe	Gly	Leu	Gly	Met	Thr		
145					150					155				160			
Leu	Val	Ile	Phe	His	Leu	Ser	Phe	Cys	Ser	Ser	His	Glu	Ile	Gln	His		
			165					170					175				
Phe	Phe	Cys	Asp	Thr	Pro	Pro	Val	Leu	Ser	Leu	Ala	Cys	Gly	Asp	Thr		
			180					185					190				
Gly	Pro	Ser	Glu	Leu	Arg	Ile	Phe	Ile	Leu	Ser	Leu	Leu	Val	Leu	Leu		
		195					200					205					
Val	Ser	Phe	Phe	Phe	Ile	Thr	Ile	Ser	Tyr	Ala	Tyr	Ile	Leu	Ala	Ala		
	210					215					220						
Ile	Leu	Arg	Ile	Pro	Ser	Ala	Glu	Gly	Gln	Lys	Lys	Ala	Phe	Ser	Thr		
225					230					235					240		
Cys	Ala	Ser	His	Leu	Thr	Val	Val	Ile	Ile	His	Tyr	Gly	Cys	Ala	Ser		
			245					250					255				
Phe	Val	Tyr	Leu	Arg	Pro	Lys	Ala	Ser	Tyr	Ser	Leu	Glu	Arg	Asp	Gln		
		260					265					270					
Leu	Ile	Ala	Met	Thr	Tyr	Thr	Val	Val	Thr	Pro	Leu	Leu	Asn	Pro	Ile		
	275						280					285					
Val	Tyr	Ser	Leu	Arg	Thr	Arg	Ala	Ile	Gln	Thr	Ala	Leu	Arg	Asn	Ala		
	290					295					300						

Phe Arg Gly Arg Leu Leu Gly Lys Gly  
305 310

<210> 416  
<211> 942  
<212> DNA  
<213> Homo sapiens

<400> 416  
atggggcaga ccaacgtaac ctcttgagg gattttgtct tcctgggctt ctccagttct 60  
ggggagttgc agctccttct ctttgccctg ttctctctctc tgtatctagt cactctgacc 120  
agcaatgtct tcattatcat agccatcagg ctggatagcc atctgcacac ccccatgtac 180  
ctcttccttt ccttcctatc cttctctgag acctgctaca ctttgggcat catccctaga 240  
atgctctctg gcctggctgg gggggaccag gctatctcct atgtgggctg tgctgccag 300  
atgttctttt ctgcctcatg ggctgtact aactgcttcc ttctggctgc catgggcttt 360  
gacagatatg tggccatctg tgctccactc cactatgcca gccacatgaa tcctaccctc 420  
tgtgcccagc tggtcattac ttcttctctg actggatacc tctttggact gggaatgaca 480  
ctagttatct tccacctctc attctgcagc tcccatgaaa tccagcactt tttttgtgac 540  
acgccacctg tgctgagcct agcctgtgga gatacaggcc cgagtgcgct gaggatcttt 600  
atcctcagtc ttttggctct cttgggtctc ttcttcttca tcaccatctc ctacgcctac 660  
atcttggcag caatactgag gatccctct gctgaggggc agaagaaggc cttctccact 720  
tgtgcctcgc accttacagt ggtcattatt cattatggct gtgcttctt cgtgtacctg 780  
aggcccaaag ccagctactc tcttgagaga gatcagctta ttgccatgac ctatactgta 840  
gtgaccccc tccttaatcc cattgtttat agtctaagga ctagggtctat acagacagct 900  
ctgaggaatg ctttcagagg gagattgctg ggtaaaggat ga 942

<210> 417  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 417  
Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu  
1 5 10 15  
Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe  
20 25 30  
Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala  
35 40 45  
Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu  
50 55 60  
Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro  
65 70 75 80  
Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala  
85 90 95  
Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp  
100 105 110  
Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg  
115 120 125  
His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala  
130 135 140

Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr  
 145 150 155 160  
 Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro  
 165 170 175  
 His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp  
 180 185 190  
 Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val  
 195 200 205  
 Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala  
 210 215 220  
 Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser  
 225 230 235 240  
 Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val  
 245 250 255  
 Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly  
 260 265 270  
 Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro  
 275 280 285  
 Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala  
 290 295 300  
 Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser  
 305 310 315

<210> 418  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 418  
 atggaggctg ccaatgagtc ttcagagggga atctcattcg ttttattggg actgacaaca 60  
 agtcctggac agcagcggcc tctctttgtg ctgttcttgc tcttgatgt ggccagcctc 120  
 ctgggtaatg gactcattgt ggctgccatc caggccagtc cagcccttca tgcacccatg 180  
 tacttcctgc tggccacact gtcctttgct gacctctgtt tcgcctccgt cactgtgccc 240  
 aagatgttg ccaacttggt ggcccatgac cactccatct cgctggctgg ctgcctgacc 300  
 caaatgtact tcttctttgc cctgggggta actgatagct gtcttctggc ggccatggcc 360  
 tatgactgct acgtggccat ccggcacccc ctcccctatg ccacgaggat gtcccgggcc 420  
 atgtgcgag ccctgggtgg aatggcatgg ctgggtgtccc acgtccactc cctcctgtat 480  
 atcctgctca tggctcgctt gtccttctgt gcttcccacc aagtgcccc cttcttctgt 540  
 gaccaccagc ctctcttaag gctctcgtgc tctgacacc accacatcca gctgctcatc 600  
 ttcaccgagg gcgcgcagtg ggtggctact cccttctgc tcatcctcgc ctccatggg 660  
 gccatcgag ctgcctgtgt ccagctgccc tcagcctctg ggaggctccg ggctgtgtcc 720  
 acctgtggt cccacctggc tgtgggtgag ctcttctatg ggacagtcac tgcagtcctac 780  
 ttccaggcca catcccgacg cgaggcagag tggggccgtg tggccactgt catgtacact 840  
 gtagtcaccc ccacgtgaa ccccatcatc tacagcctct ggaatcgga tgtacagggg 900  
 gcactccgag cccttctcat tgggcgaagg atctcagcta gtgactcctg a 951

<210> 419  
 <211> 311

<212> PRT  
<213> Homo sapiens

<400> 419

Met	Gly	Ser	Phe	Asn	Thr	Ser	Phe	Glu	Asp	Gly	Phe	Ile	Leu	Val	Gly	
1				5					10					15		
Phe	Ser	Asp	Trp	Pro	Gln	Leu	Glu	Pro	Ile	Leu	Phe	Val	Phe	Ile	Phe	
		20						25				30				
Ile	Phe	Tyr	Ser	Leu	Thr	Leu	Phe	Gly	Asn	Thr	Ile	Ile	Ile	Ala	Leu	
		35					40					45				
Ser	Trp	Leu	Asp	Leu	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	
	50					55					60					
His	Leu	Ser	Leu	Leu	Asp	Leu	Cys	Phe	Thr	Thr	Ser	Thr	Val	Pro	Gln	
	65				70					75					80	
Leu	Leu	Ile	Asn	Leu	Cys	Gly	Val	Asp	Arg	Thr	Ile	Thr	Arg	Gly	Gly	
			85						90					95		
Cys	Val	Ala	Gln	Leu	Phe	Ile	Tyr	Leu	Ala	Leu	Gly	Ser	Thr	Glu	Cys	
		100						105					110			
Val	Leu	Leu	Val	Val	Met	Ala	Phe	Asp	Arg	Tyr	Ala	Ala	Val	Cys	Arg	
	115					120						125				
Pro	Leu	His	Tyr	Met	Ala	Ile	Met	His	Pro	His	Leu	Cys	Gln	Thr	Leu	
	130					135					140					
Ala	Ile	Ala	Ser	Trp	Gly	Ala	Gly	Phe	Val	Asn	Ser	Leu	Ile	Gln	Thr	
145					150					155					160	
Gly	Leu	Ala	Met	Ala	Met	Pro	Leu	Cys	Gly	His	Arg	Leu	Asn	His	Phe	
			165						170					175		
Phe	Cys	Glu	Met	Pro	Val	Phe	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Glu	
		180						185					190			
Gly	Thr	Glu	Ala	Lys	Met	Phe	Val	Ala	Arg	Val	Ile	Val	Val	Ala	Val	
	195						200					205				
Pro	Ala	Ala	Leu	Ile	Leu	Gly	Ser	Tyr	Val	His	Ile	Ala	His	Ala	Val	
	210					215					220					
Leu	Arg	Val	Lys	Ser	Thr	Ala	Gly	Arg	Arg	Lys	Ala	Phe	Gly	Thr	Cys	
225					230					235					240	
Gly	Ser	His	Leu	Leu	Val	Val	Phe	Leu	Phe	Tyr	Gly	Ser	Ala	Ile	Tyr	
			245						250					255		
Thr	Tyr	Leu	Gln	Ser	Ile	His	Asn	Tyr	Ser	Glu	Arg	Glu	Gly	Lys	Phe	
		260						265					270			
Val	Ala	Leu	Phe	Tyr	Thr	Ile	Ile	Thr	Pro	Ile	Leu	Asn	Pro	Leu	Ile	
		275					280					285				
Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Val	Lys	Gly	Ala	Leu	Trp	Lys	Val	Leu	
	290					295						300				



Trp Arg Gly Arg Asp Ser Gly  
305 310

<210> 420  
<211> 936  
<212> DNA  
<213> Homo sapiens

<400> 420  
atgggaagtt tcaacaccag ttttgaagat ggcttcattt tgggtgggatt ctcagattgg 60  
ccgcaactgg agcccatcct gtttgtcttt atttttatatt tctactccct aactctcttt 120  
ggcaacacca tcatcatcgc tctctcctgg cttagacctt ggctgcacac acctatgtac 180  
ttctttctct ctcattctgt cctcctggac ctctgcttca ccaccagcac cgtgccccag 240  
ctcctgatca acctttgcgg ggtggaccgc accatcaccc gtggaggggtg tgtggctcag 300  
ctcttcatct acctagccct gggctccaca gagtgtgtgc tcctgggtgt gatggccttt 360  
gaccgctatg ctgctgtctg tcgtccactc cactacatgg ccatcatgca ccccatctc 420  
tgccagaccc tggctatcgc ctctctgggt gcgggtttcg tgaactctct gatccagaca 480  
gggtctcgcaa tggccatgcc tctctgtggc catcgactga atcacttctt ctgtgagatg 540  
cctgtattttc tgaagttggc ttgtgctggc acagaaggaa cagaggccaa gatgtttgtg 600  
gcccagagtc tagtctgtggc tgctcctgca gcaattattc taggctccta tgtgcacatt 660  
gctcatgcag tgctgagggg gaagtcaacg gctgggcgca gaaaggcttt tgggacttgt 720  
gggtcccacc tcctagtagt tttccttttt tatggctcag ccattctacac atatctccaa 780  
tccatccaca attattctga gcgtgaggga aaatttggtt ccctttttta tactataatt 840  
acccccattc tcaatcctct catttataca ctaagaaaca aggacgtgaa gggggctctg 900  
tggaagtagc tatggagggg cagggactca gggtag 936

<210> 421  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 421  
Met Glu Asn Tyr Asn Gln Thr Ser Thr Asp Phe Ile Leu Leu Gly Leu  
1 5 10 15  
Phe Pro Pro Ser Ile Ile Asp Leu Phe Phe Phe Ile Leu Ile Val Phe  
20 25 30  
Ile Phe Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile  
35 40 45  
Phe Leu Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln  
50 55 60  
Leu Ser Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met  
65 70 75 80  
Ala Ser Asp Phe Leu His Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys  
85 90 95  
Gly Ile Gln Ser Phe Phe Phe Leu Ala Leu Gly Gly Ala Glu Ala Leu  
100 105 110  
Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro  
115 120 125  
Leu His Tyr Leu Ile Arg Met Ser Lys Arg Val Cys Val Leu Met Ile  
130 135 140

Thr Gly Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val  
 145 150 155 160  
 Tyr Val Leu His Ile Pro Tyr Cys Arg Ser Arg Ala Ile Asn His Phe  
 165 170 175  
 Phe Cys Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp  
 180 185 190  
 Val Tyr Glu Gly Thr Val Phe Leu Ser Ala Thr Ile Phe Leu Val Phe  
 195 200 205  
 Pro Phe Ile Gly Ile Ser Cys Ser Tyr Gly Gln Val Leu Phe Ala Val  
 210 215 220  
 Tyr His Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys  
 225 230 235 240  
 Ser Thr His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr  
 245 250 255  
 Thr Tyr Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val  
 260 265 270  
 Leu Ala Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser  
 290 295 300  
 Gln Arg Ile Cys Ser Val Lys Met  
 305 310

<210> 422  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 422  
 atggaaaatt acaatcaaac atcaactgat ttcattcttat tggggctggt tccaccatca 60  
 ataattgacc ttttcttctt cattctcatt gttttcattt tcctgatggc tctaattgga 120  
 aacctgtcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180  
 ctactgagtc agctctccct cattgacctt aattacatct ccaccattgt tcctaagatg 240  
 gcatctgatt ttctgcatgg aaacaagtct atctccttca ctgggtgtgg gattcagagt 300  
 ttcttcttct tggcattagg aggtgcagaa gcaactacttt tggcatctat ggcctatgat 360  
 cgttacattg ctatttgctt tcctctccac tatctcatcc gcatgagcaa aagagtgtgt 420  
 gtgctgatga taacagggtc ttggatcata ggctcgatca atgcttgtgc tcacactgta 480  
 tatgtactcc atattcctta ttgccgatcc agggccatca atcatttctt ctgtgatgtc 540  
 ccagcaatgg tgactctggc ctgcatggac acctgggtct atgagggcac agtgtttttg 600  
 agtgccacca tctttctcgt gtttcccttc attggatttt catgttccta tggccagggt 660  
 ctctttgctg tctaccacat gaaatctgca gaaggaggga agaaagccta tttgacctgc 720  
 agcaccacc tcaactgtagt aactttctac tatgcacctt ttgtctacac ttatctacgt 780  
 ccaagatccc tgcgatctcc aacagaggac aagggtctgg ctgtcttcta caccatcctc 840  
 accccaatgc tcaaccccat catctatagc ctgaggaaca aggaggtgat gggggccctg 900  
 acacgagtga gtcagagaat ctgctctgtg aaaatgtag 939

<210> 423  
 <211> 327  
 <212> PRT

<213> Homo sapiens

<400> 423

Met	Glu	Trp	Arg	Asn	His	Ser	Gly	Arg	Val	Ser	Glu	Phe	Val	Leu	Leu	
1				5					10					15		
Gly	Phe	Pro	Ala	Pro	Ala	Pro	Leu	Gln	Val	Leu	Leu	Phe	Ala	Leu	Leu	
			20					25					30			
Leu	Leu	Ala	Tyr	Val	Leu	Val	Leu	Thr	Glu	Asn	Thr	Leu	Ile	Ile	Met	
		35					40					45				
Ala	Ile	Arg	Asn	His	Ser	Thr	Leu	His	Lys	Pro	Met	Tyr	Phe	Phe	Leu	
	50					55					60					
Ala	Asn	Met	Ser	Phe	Leu	Glu	Ile	Trp	Tyr	Val	Thr	Val	Thr	Ile	Pro	
65					70					75					80	
Lys	Met	Leu	Ala	Gly	Phe	Val	Gly	Ser	Lys	Gln	Asp	His	Gly	Gln	Leu	
				85					90					95		
Ile	Ser	Phe	Glu	Gly	Cys	Met	Thr	Gln	Leu	Tyr	Phe	Phe	Leu	Gly	Leu	
			100					105					110			
Gly	Cys	Thr	Glu	Cys	Val	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	
		115					120					125				
Met	Ala	Ile	Cys	Tyr	Pro	Leu	His	Tyr	Pro	Val	Ile	Val	Ser	Gly	Arg	
	130					135					140					
Leu	Cys	Val	Gln	Met	Ala	Ala	Gly	Ser	Trp	Ala	Gly	Gly	Phe	Gly	Ile	
145					150					155					160	
Ser	Met	Val	Lys	Val	Phe	Leu	Ile	Ser	Gly	Leu	Ser	Tyr	Cys	Gly	Pro	
			165						170					175		
Asn	Ile	Ile	Asn	His	Phe	Phe	Cys	Asp	Val	Ser	Pro	Leu	Leu	Asn	Leu	
			180					185					190			
Ser	Cys	Thr	Asp	Met	Ser	Thr	Ala	Glu	Leu	Thr	Asp	Phe	Ile	Leu	Ala	
		195					200					205				
Ile	Phe	Ile	Leu	Leu	Gly	Pro	Leu	Ser	Val	Thr	Gly	Ala	Ser	Tyr	Val	
	210					215					220					
Ala	Ile	Thr	Gly	Ala	Val	Met	His	Ile	Ser	Ser	Ala	Ala	Gly	Arg	Tyr	
225					230					235					240	
Lys	Ala	Phe	Ser	Thr	Cys	Ala	Ser	His	Leu	Thr	Val	Val	Ile	Ile	Phe	
				245					250					255		
Tyr	Ala	Ala	Ser	Ile	Phe	Ile	Tyr	Ala	Arg	Pro	Lys	Ala	Leu	Ser	Ala	
		260						265					270			
Phe	Asp	Thr	Asn	Lys	Leu	Val	Ser	Val	Leu	Tyr	Ala	Val	Ile	Val	Pro	
		275					280					285				
Leu	Leu	Asn	Pro	Ile	Ile	Tyr	Cys	Leu	Arg	Asn	Gln	Glu	Val	Lys	Arg	
	290					295					300					
Ala	Leu	Cys	Cys	Thr	Leu	His	Leu	Tyr	Gln	His	Gln	Asp	Pro	Asp	Pro	

305

310

315

320

Lys Lys Ala Ser Arg Asn Val  
325

&lt;210&gt; 424

&lt;211&gt; 984

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 424

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cctgcgccac tacaggtact attgtttgcc cttttgctgc tggcctatgt gttggtgctg 120
actgagaaca cactcatcat tatggcaatt aggaaccatt ctaccctcca caaaccatg 180
tacttttttc tagctaatat gtcctttctg gagatctggg atgtcactgt cactattccc 240
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ggatgcatga cacagctcta ctttttccct ggcttgggct gcaactgagt tgtccttctc 360
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gctcctatg tggccattac tgggtgctgt atgcacatat cttcggtgctc tggacgctat 720
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gaggtcaaga gagccctatg ctgtactctg cacctgtacc agcaccagga tcctgacccc 960
aagaaagcta gcagaaatgt atag                                     984

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&lt;210&gt; 425

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 425

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Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly
  1              5              10              15

Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu
      20              25              30

Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val
      35              40              45

Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln
      50              55              60

His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu
      65              70              75              80

Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala
      85              90              95

Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys
      100             105             110

Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser
      115             120             125

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Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu  
 130 135 140  
 Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser  
 145 150 155 160  
 Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His  
 165 170 175  
 Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val  
 180 185 190  
 Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys  
 195 200 205  
 Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser  
 210 215 220  
 Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile  
 245 250 255  
 Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys  
 260 265 270  
 Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val  
 290 295 300  
 Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe  
 305 310 315 320  
 Leu Tyr

<210> 426  
 <211> 969  
 <212> DNA  
 <213> Homo sapiens

<400> 426  
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 gggaatgttg tcatcatcac cgtggtgagc cagggcctgc gactgcactc ccctatgtac 180  
 atgttctctc agcatctctc ctttctggag gtctggtaca cgtccaccac tgtgcccctt 240  
 ctctagcca acctgctgtc ctggggccaa gccatctcct tctctgcctg catggcacag 300  
 ctctacttct tctattcct cggcgccacc gagtgctttc tcttggcctt catggcctat 360  
 gaccgttacc tggccatctg cagcccactc cgctaccctt ttctcatgca tctgtggcta 420  
 tgtgccaggt tgggtggtggt ctcatggtgc acaggggtca gcacaggctt tctgcattcc 480  
 atgatgattt ccagggttga cttctgtggg cgcaatcaga ttaaccattt cttctgctac 540  
 ctcccgccac tcatgcagct ctctgttcc agagtttata tcaccgaggt gaccatcttc 600  
 atcctgtcaa ttgccgtgct gtgcatttgc tttttctga cactggggcc ctatgttttc 660  
 attgtgtcct ccatttgag aatcccttcc acctctggcc ggagaaagac cttttccaca 720  
 tgtggctccc acctggctgt tgtcactctc tactacggga ccatgatctc catgtatgtg 780  
 tgtcccagtc cccacctgtt gcctgaaatc aacaagatca tttctgtctt ctacactgtg 840  
 gtcacaccac tgctgaaccc agttatctac agcttgagga acaaagactt caaagaagct 900

gtagaaagg tcatgagaag gaaatgtggt attctatgga gtacaagtaa aaggaagttc 960  
 ctttattag 969

<210> 427  
 <211> 338  
 <212> PRT  
 <213> Homo sapiens

<400> 427  
 Met Phe Tyr Val Asn Gln Ile Pro Phe Gln Leu Tyr His Ile Ser Phe  
 1 5 10 15  
 Val Tyr Pro Thr Glu Leu Trp Ser Arg Ala Ile Ile Pro Cys Met Pro  
 20 25 30  
 Thr Leu Ser Phe Trp Val Cys Ser Ala Thr Pro Val Ser Pro Gly Phe  
 35 40 45  
 Phe Ala Leu Ile Leu Leu Val Phe Val Thr Ser Ile Ala Ser Asn Val  
 50 55 60  
 Val Lys Ile Ile Leu Ile His Ile Asp Ser Arg Leu His Thr Pro Met  
 65 70 75 80  
 Tyr Phe Leu Leu Ser Gln Leu Ser Leu Arg Asp Ile Leu Tyr Ile Ser  
 85 90 95  
 Thr Ile Val Pro Lys Met Leu Val Asp Gln Val Met Ser Gln Arg Ala  
 100 105 110  
 Ile Ser Phe Ala Gly Cys Thr Ala Gln His Phe Leu Tyr Leu Thr Leu  
 115 120 125  
 Ala Gly Ala Glu Phe Phe Leu Leu Gly Leu Met Ser Cys Asp Arg Tyr  
 130 135 140  
 Val Ala Ile Cys Asn Pro Leu His Tyr Pro Asp Leu Met Ser Arg Lys  
 145 150 155 160  
 Ile Cys Trp Leu Ile Val Ala Ala Ala Trp Leu Gly Gly Ser Ile Asp  
 165 170 175  
 Gly Phe Leu Leu Thr Pro Val Thr Met Gln Phe Pro Phe Cys Ala Ser  
 180 185 190  
 Arg Glu Ile Asn His Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu  
 195 200 205  
 Ser Cys Thr Asp Thr Ser Ala Tyr Glu Thr Ala Met Tyr Val Cys Cys  
 210 215 220  
 Ile Met Met Leu Leu Ile Pro Phe Ser Val Ile Ser Gly Ser Tyr Thr  
 225 230 235 240  
 Arg Ile Leu Ile Thr Val Tyr Arg Met Ser Glu Ala Glu Gly Arg Arg  
 245 250 255  
 Lys Ala Val Ala Thr Cys Ser Ser His Met Val Val Val Ser Leu Phe  
 260 265 270

Tyr Gly Ala Ala Met Tyr Thr Tyr Val Leu Pro His Ser Tyr His Thr  
275 280 285

Pro Glu Gln Asp Lys Ala Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro  
290 295 300

Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly  
305 310 315 320

Ala Leu Gln Lys Val Val Gly Arg Cys Val Ser Ser Gly Lys Val Thr  
325 330 335

Thr Phe

<210> 428  
<211> 1017  
<212> DNA  
<213> Homo sapiens

<400> 428  
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gcaacgcccg tttcccttgg cttcttttggc ctcattctcc tgggtcttgt gacctccata 180  
gccagcaacg tgggtcaagat cattctcadc cacatagact cccgcctcca caccctcatg 240  
tacttcctgc tcagccagct ctccctcagg gacatcctgt atatttccac cattgtgccc 300  
aaaatgctgg tcgaccaggt gatgagccag agagccattt cctttgctgg atgcactgcc 360  
caacacttcc tctacttgac ctttagcaggg gctgagttct tcctcctagg actcatgtcc 420  
tgtgatcgct acgtagccat ctgcaaccct ctgcaactatc ctgacctcat gagccgcaag 480  
atctgctggg tgattgtggc ggcagccctg ctgggagggt ctatcgatgg tttcttgctc 540  
acccccgtca ccattcagtt ccccttctgt gcctctcggg agatcaacca cttcttctgc 600  
gaggtgcctg cccttctgaa gctctcctgc acggacacat cagcctacga gacagccatg 660  
tatgtctgct gtattatgat gctcctcadc cctttctctg tgatctcggg ctcttacaca 720  
agaattctca ttactgttta taggatgagc gaggcagagg ggaggcgaaa ggctgtggcc 780  
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atcctcactc ccatgctcaa tccactcatt tacagcctta ggaacaagga tgtcacggg 960  
gccctacaga aggttggttg gaggtgtgtg tcctcaggaa aggttaaccac tttctaa 1017

<210> 429  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 429  
Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr  
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Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val  
20 25 30  
Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu  
35 40 45  
Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu  
50 55 60  
Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro  
65 70 75 80

Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu  
                             85                            90                            95  
 Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu  
                             100                            105                            110  
 Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys  
                             115                            120                            125  
 Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe  
                             130                            135                            140  
 Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu  
 145                            150                            155                            160  
 Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn  
                             165                            170                            175  
 His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp  
                             180                            185                            190  
 Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu  
                             195                            200                            205  
 Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu  
                             210                            215                            220  
 Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala  
 225                            230                            235                            240  
 Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala  
                             245                            250                            255  
 Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp  
                             260                            265                            270  
 Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro  
                             275                            280                            285  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys  
                             290                            295                            300  
 Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val  
 305                            310                            315                            320  
 Ile Arg Lys Gly

<210> 430  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 430  
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 acagccaact tggatcatgat tctgctcacc cacatggact cccgcctcca cacacccatg 180  
 tacttcttgc tcagccagct ctccatcatg gataccatct acatctgtat cactgtcccc 240  
 aagatgctcc aggacctcct gtccaaggac aagaccattt ccttcctggg ctgtgcagtt 300



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cagatcttcc tctacctgac cctgattgga ggggaattct tcctgctggg tctcatggcc 360
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gtttgcttat tcatgggtgt cggctcctgg gttgggtggt ccttggatgg gttcatgctg 480
actcctgtca ctatgagttt ccccttctgt agatcccag agatcaatca ctttttctgt 540
gagatcccag ccgtgctgaa gttgtcttgc acagacacgt cactctatga gaccctgatg 600
tatgcctgct gcgtgctgat gctgcttata cctctatctg tcatctctgt ctccctacacg 660
cacatcctcc tgactgtcca caggatgaac tctgctgagg gccggcgcaa agcctttgct 720
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gtgctgcccc actcctacca cactccagag aaagataaag tgggtgtctgc cttctacacc 840
atcctcacc ccatgctcaa cccactcatc tacagcttga ggaataaaga tgtggctgca 900
gctctgagga aagtactagg gagatgtggt tcctcccaga gcatcagggt ggcgactgtg 960
atcaggaagg gctag 975

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<210> 431  
 <211> 304  
 <212> PRT  
 <213> Homo sapiens

<400> 431  
 Met Glu Arg Ala Asn His Ser Val Val Ser Glu Phe Ile Leu Leu Gly  
   1                  5                  10                  15  
 Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly Phe Ser  
                   20                  25                  30  
 Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr  
           35                  40                  45  
 Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
       50                  55                  60  
 Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys  
   65                  70                  75                  80  
 Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly  
                   85                  90                  95  
 Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met  
           100                  105                  110  
 Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys  
       115                  120                  125  
 Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu  
       130                  135                  140  
 Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met  
   145                  150                  155                  160  
 Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser  
           165                  170                  175  
 Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr  
       180                  185                  190  
 Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu  
       195                  200                  205  
 Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser  
       210                  215                  220

Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu  
 225 230 235 240

Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe  
 245 250 255

Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser  
 260 265 270

Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285

Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile  
 290 295 300

<210> 432  
 <211> 915  
 <212> DNA  
 <213> Homo sapiens

<400> 432  
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 ggaaacctgc tcatcttggt gactgtgacc ttgtattcgc tccttcacac accaatgtat 180  
 tttctgctta gcaacctctc ctgcattgat atgatcctgg cttcttttgc tacccttaag 240  
 atgattgtag atttcctccg agaacgtaag accatctcat ggtggggatg ttattcccag 300  
 atgttcttta tgcacctcct ggggtgggagt gagatgatgt tgctttagc catggcaata 360  
 gacaggtatg ttgccatatg caaacccctc cattacatga ccacatgag ccacgggtg 420  
 ctcactgggc tactgttata ctcctatgca gttggatttg tgcactcatc tagtcaaatg 480  
 gcttttcattg tgactttgcc cttctgtggt cccaatgtta tagacagctt tttctgtgac 540  
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 cccttcagca gatactcggg agataaaatt ctttctgtgt ttacacaaat tttcacacct 840  
 ctcttaaate ctattattta tacattaaga aatcaagagg taaaagcagc cattaaaaaa 900  
 agactctgca tataa 915

<210> 433  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 433  
 Met Asp Asn Ile Thr Trp Met Ala Ser His Thr Gly Trp Ser Asp Phe  
 1 5 10 15

Ile Leu Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile  
 20 25 30

Thr Trp Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly  
 35 40 45

Leu Phe Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe  
 50 55 60

Val Val Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu

65	70	75	80
Ile His Cys Asp	Ala His Leu His Thr	Pro Met Tyr Phe Phe	Ile Ser
	85	90	95
Gln Leu Ser	Leu Met Asp Met Ala Tyr	Ile Ser Val Thr	Val Pro Lys
	100	105	110
Met Leu Leu Asp	Gln Val Met Gly Val	Asn Lys Ile Ser	Ala Pro Glu
	115	120	125
Cys Gly Met	Gln Met Phe Phe Tyr	Val Thr Leu Ala	Gly Ser Glu Phe
	130	135	140
Phe Leu Leu Ala	Thr Met Ala Tyr Asp	Arg Tyr Val Ala	Ile Cys His
	145	150	155
Pro Leu Arg Tyr	Pro Val Leu Met Asn	His Arg Val Cys	Leu Phe Leu
	165	170	175
Ser Ser Gly	Cys Trp Phe Leu Gly	Ser Val Asp Gly	Phe Thr Phe Thr
	180	185	190
Pro Ile Thr	Met Thr Phe Pro Phe	Arg Gly Ser Arg	Glu Ile His His
	195	200	205
Phe Phe Cys	Glu Val Pro Ala Val	Leu Asn Leu Ser	Cys Ser Asp Thr
	210	215	220
Ser Leu Tyr	Glu Ile Phe Met Tyr	Leu Cys Cys Val	Leu Met Leu Leu
	225	230	235
Ile Pro Val	Val Ile Ile Ser Ser	Ser Tyr Leu Leu	Ile Leu Leu Thr
	245	250	255
Ile His Gly	Met Asn Ser Ala Glu	Gly Arg Lys Lys	Ala Phe Ala Thr
	260	265	270
Cys Ser Ser	His Leu Thr Val Val	Ile Leu Phe Tyr	Gly Ala Ala Ile
	275	280	285
Tyr Thr Tyr	Met Leu Pro Ser Ser	Tyr His Thr Pro	Glu Lys Asp Met
	290	295	300
Met Val Ser	Val Phe Tyr Thr Ile	Leu Thr Pro Val	Val Asn Pro Leu
	305	310	315
Ile Tyr Ser	Leu Arg Asn Lys Asp	Val Met Gly Ala	Leu Lys Lys Met
	325	330	335
Leu Thr Val	Glu Pro Ala Phe Gln	Lys Ala Met Glu	
	340	345	

<210> 434

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 434

atggacaaca tcacctggat ggccagccac actggatggt cggatttcat cctgatggga 60

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tggtcggatt tcatcctggt gggactcttc agacaatcca aacatccagc actactttgt 180
gtgggtcattt ttgtggtttt cctgatggcg ttgtctggaa atgctgtcct gatccttctg 240
atacactgtg acgcccacct ccacaccccc atgtactttt tcatcagtca attgtctctc 300
atggacatgg cgtacatttc tgtcactgtg cccaagatgc tcctggacca ggtcatgggt 360
gtgaataaga tctcagcccc tgagtgtggg atgcagatgt tcttctacgt gacactagca 420
ggttcagaat ttttccttct agccaccatg gcctatgacc gctacgtggc catctgccat 480
cctctccgtt accctgtcct catgaaccat aggggtgtgtc tcttctgtc atcaggctgc 540
tggttcctgg gctcagtggg tggcttcaca ttcactccca tcaccatgac cttccccttc 600
cgtggatccc gggagattca tcatttcttc tgtgaagttc ctgctgtatt gaatctctcc 660
tgctcagaca cctcactcta tgagattttc atgtacttgt gctgtgtcct catgctcctc 720
atccctgtgg tgatcatttc aagctcctat ttactcatcc tcctcaccat ccacgggatg 780
aactcagcag agggccggaa aaaggccttt gccacctgct cctcccacct gactgtgggc 840
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gagaaggaca tgatgggtatc tgtcttctat accatcctca ctccagtggg gaacccttta 960
atctatagtc ttaggaataa ggatgtcatg ggggctctga agaaaatgtt aacagtggaa 1020
cctgcctttc aaaaagctat ggagtag 1047

```

<210> 435  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 435

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Met Ala Asn Ile Thr Arg Met Ala Asn His Thr Gly Lys Leu Asp Phe
  1                      5                      10                      15

```

```

Ile Leu Met Gly Leu Phe Arg Arg Ser Lys His Pro Ala Leu Leu Ser
      20                      25                      30

```

```

Val Val Ile Phe Val Val Phe Leu Lys Ala Leu Ser Gly Asn Ala Val
      35                      40                      45

```

```

Leu Ile Leu Leu Ile His Cys Asp Ala His Leu His Ser Pro Met Tyr
      50                      55                      60

```

```

Phe Phe Ile Ser Gln Leu Ser Leu Met Asp Met Ala Tyr Ile Ser Val
      65                      70                      75                      80

```

```

Thr Val Pro Lys Met Leu Leu Asp Gln Val Met Gly Val Asn Lys Val
      85                      90                      95

```

```

Ser Ala Pro Glu Cys Gly Met Gln Met Phe Leu Tyr Leu Thr Leu Ala
      100                      105                      110

```

```

Gly Ser Glu Phe Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val
      115                      120                      125

```

```

Ala Ile Cys His Pro Leu Arg Tyr Pro Val Leu Met Asn His Arg Val
      130                      135                      140

```

```

Cys Leu Phe Leu Ala Ser Gly Cys Trp Phe Leu Gly Ser Val Asp Gly
      145                      150                      155                      160

```

```

Phe Met Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Arg Ser Trp
      165                      170                      175

```

```

Glu Ile His His Phe Phe Cys Glu Val Pro Ala Val Thr Ile Leu Ser
      180                      185                      190

```

Cys Ser Asp Thr Ser Leu Tyr Glu Thr Leu Met Tyr Leu Cys Cys Val  
195 200 205

Leu Met Leu Leu Ile Pro Val Thr Ile Ile Ser Ser Ser Tyr Leu Leu  
210 215 220

Ile Leu Leu Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Lys Lys  
225 230 235 240

Ala Phe Ala Thr Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr  
245 250 255

Gly Ala Ala Val Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr Pro  
260 265 270

Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Val  
275 280 285

Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Met Gly Ala  
290 295 300

Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu  
305 310 315

<210> 436

<211> 948

<212> DNA

<213> Homo sapiens

<400> 436

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aaggcggtgt ctggaaatgc tgtcctgata cttctgatac actgtgacgc ccacctccac 180
agccccatgt actttttcat cagtcaattg tctctcatgg acatggcgta catttctgtc 240
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tgtgggatgc agatgttctt ctatctgaca ctagcagggtt cggaattttt ccttctagcc 360
accatggcct atgaccgcta cgtggccatc tgccatcctc tccgttacct tgtcctcatg 420
aaccataggg tctgtctttt cctggcatcg ggctgctggg tcctgggctc agtggatggc 480
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accctcatgt acctatgctg tgtcctcatg ctccctcatc ctgtgacgat catttcaagc 660
tcctatttac tcactctcct caccgtccac aggatgaact cagcagaggg ccggaaaaag 720
gcctttgcca cctgctcctc ccacctgact gtgggtcatc tcttctatgg ggctgccgtc 780
tacacctaca tgctccccag ctctaccac acccctgaga aggacatgat ggtatctgtc 840
ttctatacca tcctcactcc ggtgctgaac cctttaatct atagtcttag gaataaggat 900
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<210> 437

<211> 312

<212> PRT

<213> Homo sapiens

<400> 437

Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser  
1 5 10 15

Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu  
20 25 30

Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr  
 35 40 45  
 Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu  
 50 55 60  
 Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys  
 65 70 75 80  
 Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val  
 85 90 95  
 Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe  
 100 105 110  
 Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu  
 115 120 125  
 His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu  
 130 135 140  
 Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser  
 145 150 155 160  
 Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe  
 165 170 175  
 Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser  
 180 185 190  
 Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys  
 195 200 205  
 Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu  
 210 215 220  
 Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile  
 225 230 235 240  
 Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val  
 245 250 255  
 Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu  
 260 265 270  
 Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr  
 275 280 285  
 Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys  
 290 295 300  
 Arg Ile Phe Tyr Ser Glu Asn Val  
 305 310

<210> 438

<211> 939

<212> DNA

<213> Homo sapiens

<400> 438

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atgcccaatt caaccacgt gatggaattt ctcctcatga gggttttctga tgtgtggaca 60
ctacagattt tacattctgc atccttcttt atgttgattt tggtaactct aatgggaaac 120
atcctcattg tgaccgtcac cacctgtgac agcagccttc acatgcccac gtacttcttc 180
ctcaggaatc tgtctatctt ggatgcctgc tacatttctg ttacagtccc tacctcatgt 240
gtcaattccc tactggacag caccaccatt tctaaggcgg gatgtgtagc tcaggtcttc 300
ctcgtgggtt tttttgtata tgtggagctt ctgtttctca ccattatggc tcatgaccgc 360
tatgtggctg tctgccagcc acttcactac cctgtgatcg tgaactctcg aatctgcac 420
cagatgacac tggcctccct actcagtggg cttgtctatg caggcatgca cactggcagc 480
acattccagc tgcccttctg tcggtccaac gttattcatc aattcttctg tgacatcccc 540
tctctgctga agctctcttg ctctgacacc ttcagcaatg aggtcatgat tgttgtctct 600
gctctggggg taggtggcgg ctgtttcatc tttatcatca ggtcttacat tcacatcttt 660
tcgaccgtgc tcgggtttcc aagaggagca gacagaacaa aggccttttc cacctgcac 720
cctcacatcc tgggtggtgc agtcttcttc agttcatgct cttctgtgta cctcaggcca 780
cctgcgatc ctgcagccac ccaggatctg atccttctg gtttttattc cataatgcct 840
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aaaatcatga agagaatttt ttattcagaa aatgtgtaa 939

```

<210> 439  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 439

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Met Asp Gly Val Asn Asp Ser Ser Leu Gln Gly Phe Val Leu Met Gly
  1             5             10             15

```

```

Ile Ser Asp His Pro Gln Leu Glu Met Ile Phe Phe Ile Ala Ile Leu
      20             25             30

```

```

Phe Ser Tyr Leu Leu Thr Leu Leu Gly Asn Ser Thr Ile Ile Leu Leu
      35             40             45

```

```

Ser Arg Leu Glu Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser
      50             55             60

```

```

Asn Leu Ser Ser Leu Asp Leu Ala Phe Ala Thr Ser Ser Val Pro Gln
      65             70             75             80

```

```

Met Leu Ile Asn Leu Trp Gly Pro Gly Lys Thr Ile Ser Tyr Gly Gly
      85             90             95

```

```

Cys Ile Thr Gln Leu Tyr Val Phe Leu Trp Leu Gly Ala Thr Glu Cys
      100            105            110

```

```

Ile Leu Leu Val Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys Arg
      115            120            125

```

```

Pro Leu Arg Tyr Thr Ala Ile Met Asn Pro Gln Leu Cys Trp Leu Leu
      130            135            140

```

```

Ala Val Ile Ala Cys Leu Gly Gly Leu Gly Asn Ser Val Ile Gln Ser
      145            150            155            160

```

```

Thr Phe Thr Leu Gln Leu Pro Leu Cys Gly His Arg Arg Val Glu Gly
      165            170            175

```

```

Phe Leu Cys Glu Val Pro Ala Met Ile Lys Leu Ala Cys Gly Asp Thr
      180            185            190

```

```

Ser Leu Asn Gln Ala Val Leu Asn Gly Val Cys Thr Phe Phe Thr Ala

```

195

200

205

Val Pro Leu Ser Ile Ile Val Ile Ser Tyr Cys Leu Ile Ala Gln Ala  
210 215 220

Val Leu Lys Ile Arg Ser Ala Glu Gly Arg Arg Lys Ala Phe Asn Thr  
225 230 235 240

Cys Leu Ser His Leu Leu Val Val Phe Leu Phe Tyr Gly Ser Ala Ser  
245 250 255

Tyr Gly Tyr Leu Leu Pro Ala Lys Asn Ser Lys Gln Asp Gln Gly Lys  
260 265 270

Phe Ile Ser Leu Phe Tyr Ser Leu Val Thr Pro Met Val Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Met Glu Val Lys Gly Ala Leu Arg Arg Leu  
290 295 300

Leu Gly Lys Gly Arg Glu Val Gly  
305 310

&lt;210&gt; 440

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```

atggacgggg tgaatgatag ctcccttgag ggctttgttc tgatgggcat atcagacccat 60
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gggaactcaa ccatcatctt gctttccgcg ctggaggccc ggctccatac acccatgtac 180
ttcttccctca gcaacctctc ctcccttgag cttgctttcg ctactagttc agtcccccaa 240
atgctgatca atttatgggg accaggcaag accatcagct atgggtggctg cataacccag 300
ctctatgtct tcctttggct gggggccacc gagtgcaccc tgctgggtgg gatggcattt 360
gaccgctacg tggcagtgtg ccggccccc cgtacaccg ccatcatgaa ccccagctc 420
tgctggctgc tggctgtgat tgcctgcctg ggtggcttgg gcaactctgt gatccagtca 480
acattcactc tgcagctccc attgtgtggg caccggaggg tggagggatt cctctgagag 540
gtgcttgcca tgatcaaaact ggctgtggc gacacaagtc tcaaccaggc tgtgtcatt 600
ggtgtctgca ccttcttcac tgcagtcaca ctaagcatca tctgtatctc ctactgcctc 660
attgctcagg cagtgtgaa aatccgctct gcagagggga ggcgaaaggc gttcaatacg 720
tgctctctcc atctgtgtgt ggtgttctc ttctatggct cagccagcta tgggtatctg 780
cttccggcca agaacagcaa acaggaccag ggcaagttca tttccctgtt ctactcgttg 840
gtcacacca tggatgaatc cctcatctac acgctgcgga acatggaagt gaagggcgca 900
ctgaggaggt tgctggggaa aggaagagaa gttggctga 939

```

&lt;210&gt; 441

&lt;211&gt; 352

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 441

Met Thr Ser Gln Glu Arg Asp Thr Ala Ile Tyr Ser Ile Asn Val Ser  
1 5 10 15

Phe Val Ala Lys Gly Met Thr Ser Arg Ser Val Cys Glu Lys Met Thr  
20 25 30

Met Thr Thr Glu Asn Pro Asn Gln Thr Val Val Ser His Phe Phe Leu



35					40					45					
Glu	Gly	Leu	Arg	Tyr	Thr	Ala	Lys	His	Ser	Ser	Leu	Phe	Phe	Leu	Leu
	50					55					60				
Phe	Leu	Leu	Ile	Tyr	Ser	Ile	Thr	Val	Ala	Gly	Asn	Leu	Leu	Ile	Leu
65				70						75				80	
Leu	Thr	Val	Gly	Ser	Asp	Ser	His	Leu	Ser	Leu	Pro	Met	Tyr	His	Phe
			85						90					95	
Leu	Gly	His	Leu	Ser	Phe	Leu	Asp	Ala	Cys	Leu	Ser	Thr	Val	Thr	Val
			100					105					110		
Pro	Lys	Val	Met	Ala	Gly	Leu	Leu	Thr	Leu	Asp	Gly	Lys	Val	Ile	Ser
		115					120					125			
Phe	Glu	Gly	Cys	Ala	Val	Gln	Leu	Tyr	Cys	Phe	His	Phe	Leu	Ala	Ser
	130					135					140				
Thr	Glu	Cys	Phe	Leu	Tyr	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala
145					150					155					160
Ile	Cys	Gln	Pro	Leu	His	Tyr	Pro	Val	Ala	Met	Asn	Arg	Arg	Met	Cys
				165					170					175	
Ala	Glu	Met	Ala	Gly	Ile	Thr	Trp	Ala	Ile	Gly	Ala	Thr	His	Ala	Ala
			180					185					190		
Ile	His	Thr	Ser	Leu	Thr	Phe	Arg	Leu	Leu	Tyr	Cys	Gly	Pro	Cys	His
		195					200					205			
Ile	Ala	Tyr	Phe	Phe	Cys	Asp	Ile	Pro	Pro	Val	Leu	Lys	Leu	Ala	Cys
	210					215					220				
Thr	Asp	Thr	Thr	Ile	Asn	Glu	Leu	Val	Met	Leu	Ala	Ser	Ile	Gly	Ile
225					230					235					240
Val	Ala	Ala	Gly	Cys	Leu	Ile	Leu	Ile	Val	Ile	Ser	Tyr	Ile	Phe	Ile
				245					250					255	
Val	Ala	Ala	Val	Leu	Arg	Ile	Arg	Thr	Ala	Gln	Gly	Arg	Gln	Arg	Ala
			260					265					270		
Phe	Ser	Pro	Cys	Thr	Ala	Gln	Leu	Thr	Gly	Val	Leu	Leu	Tyr	Tyr	Val
		275					280					285			
Pro	Pro	Val	Cys	Ile	Tyr	Leu	Gln	Pro	Arg	Ser	Ser	Glu	Ala	Gly	Ala
	290					295					300				
Gly	Ala	Pro	Ala	Val	Phe	Tyr	Thr	Ile	Val	Thr	Pro	Met	Leu	Asn	Pro
305					310					315					320
Phe	Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Glu	Val	Lys	His	Ala	Leu	Gln	Arg
				325					330					335	
Leu	Leu	Cys	Ser	Ser	Phe	Arg	Glu	Ser	Thr	Ala	Gly	Ser	Pro	Pro	Pro
			340					345					350		

<211> 1059  
 <212> DNA  
 <213> Homo sapiens

<400> 442  
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 actgtggtga gccacttctt cctggagggt ttgaggatga ccgctaaaca ttctagcctc 180  
 ttcttcctcc tcttcctcct catctacagc atcactgtgg ctgggaatct cctcatcctc 240  
 ctaactgtgg gctctgactc tcacctcagc ttacccatgt accacttcct ggggcacctc 300  
 tccttcctgg atgcctgttt gtctacagtg acagtgccca aggtcatggc aggctgtctg 360  
 actctggatg ggaaggatgat ctccctttgag ggctgtgccg tacagcttta ttgcttcac 420  
 tttctggcca gcactgagtg ctccctgtac acagtcattg cctatgaccg ctatctggct 480  
 atctgtcaac ccctgcacta cccagtgagg atgaacagaa ggatgtgtgc agaaatggct 540  
 ggaatcacct gggccatagg tgccacgcac gctgcaatcc acacctcctt caccttcgcg 600  
 ctgctctact gtgggccttg ccacattgcc tactttctct gcgacatacc cctgtccta 660  
 aagctcgcct gtacagacac caccattaat gagctagtca tgcttgccag cattggcatc 720  
 gtggctgcag gctgcctcat cctcatcggt atttcctaca tcttcacgtt ggcagctgtg 780  
 ttgcgcatcc gcacagccca gggccggcag cgggccttct cccctgcac tgcccagctc 840  
 actggggtgc tcctgtacta cgtgccacct gtctgtatct acctgcagcc tcgctccagt 900  
 gaggcaggag ctggggcccc tgctgtcttc tacacaatcg taactccaat gctcaaccac 960  
 ttcatttaca ctttgcggaa caaggaggtg aagcatgctc tgcaaaggct tttgtgcagc 1020  
 agcttccgag agtctacagc aggcagccca ccccatag 1059

<210> 443  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 443  
 Met Asp Gln Arg Asn Tyr Thr Arg Val Lys Glu Phe Thr Phe Leu Gly  
 1 5 10 15  
 Ile Thr Gln Ser Arg Glu Leu Ser Gln Val Leu Phe Thr Phe Leu Phe  
 20 25 30  
 Leu Val Tyr Met Thr Thr Leu Met Gly Asn Phe Leu Ile Met Val Thr  
 35 40 45  
 Val Thr Cys Glu Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Arg  
 50 55 60  
 Asn Leu Ser Ile Leu Asp Ile Cys Phe Ser Ser Ile Thr Ala Pro Lys  
 65 70 75 80  
 Val Leu Ile Asp Leu Leu Ser Glu Thr Lys Thr Ile Ser Phe Ser Gly  
 85 90 95  
 Cys Val Thr Gln Met Phe Phe Phe His Leu Leu Gly Gly Ala Asp Val  
 100 105 110  
 Phe Ser Leu Ser Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Ser Lys  
 115 120 125  
 Pro Leu His Tyr Met Thr Ile Met Ser Arg Gly Arg Cys Thr Gly Leu  
 130 135 140  
 Ile Val Gly Phe Leu Gly Gly Gly Leu Val His Ser Ile Ala Gln Ile  
 145 150 155 160

Ser Leu Leu Leu Pro Leu Pro Val Cys Gly Pro Asn Val Leu Asp Thr  
165 170 175

Phe Tyr Cys Asp Val Pro Gln Val Leu Lys Leu Ala Cys Thr Asp Thr  
180 185 190

Phe Thr Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Val Ser Trp  
195 200 205

Phe Val Phe Phe Phe Leu Leu Ile Ser Tyr Thr Val Ile Leu Met Met  
210 215 220

Leu Arg Ser His Thr Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys  
225 230 235 240

Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr  
245 250 255

Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Thr Asp Thr Ala Ile Ser  
260 265 270

Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Ile Ile Tyr Thr  
275 280 285

Leu Arg Asn Gln Glu Met Lys Leu Ala Met Arg Lys Leu Lys Arg Arg  
290 295 300

Leu Gly Gln Ser Glu Arg Ile Leu Ile Gln  
305 310

<210> 444  
<211> 945  
<212> DNA  
<213> Homo sapiens

<400> 444  
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cgagaactga gccaggtctt atttaccttc ctgttttttg tgtacatgac aactctaag 120  
ggaaacttcc tcatcatggt tacagttacc tgtgaatctc accttcatac gcccatgtac 180  
ttcctgctcc gcaacctgtc tattcttgac atctgctttt cctccatcac agctcctaag 240  
gtcctgatag atcttctatc agagacaaaa accatctcct tcagtggctg tgctactcaa 300  
atgttcttct tccaccttct ggggggagca gacgtttttt ctctctctgt gatggcggtt 360  
gaccgctata tagccatctc caagcccctg cactatatga ccatcatgag tagggggcga 420  
tgcacaggcc tcatcgtggg ctctcctggg ggggggcttg tccactccat agcgagatt 480  
tctctattgc tccactccc tgtctgtgga cccaatgttc ttgacacttt ctactgcgat 540  
gtcccccagg tctcctaaact tgctgcact gacaccttca ctctggagct cctgatgatt 600  
tcaaataatg ggtagtcag ttggtttgta ttcttcttct tctcatatc ttacacggtc 660  
atcttgatga tgctgaggtc tcacactggg gaaggcagga ggaaagccat ctccacctgc 720  
acctcccaca tcaccgtggg gaccctgcat ttcgtgccct gcatctatgt ctatgcccg 780  
cccttcactg cctccccac agacactgcc atctctgtca ccttcactgt catctccct 840  
ttgctcaatc ctataattta cacgctgagg aatcaggaaa tgaagttggc catgaggaaa 900  
ctgaagagac ggctaggaca atcagaaagg attttaattc aataa 945

<210> 445  
<211> 315  
<212> PRT  
<213> Homo sapiens

<400> 445

Met	Ala	Pro	Glu	Asn	Phe	Thr	Arg	Val	Thr	Glu	Phe	Ile	Leu	Thr	Gly	1	5	10	15
Val	Ser	Ser	Cys	Pro	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Leu	Val	Phe	Leu	20	25	30	
Val	Leu	Tyr	Val	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu	35	40	45	
Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg	50	55	60	
His	Leu	Ala	Ile	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys	65	70	75	80
Met	Leu	Met	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu	85	90	95	
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val	100	105	110	
Met	Met	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	115	120	125	
Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu	130	135	140	
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser	145	150	155	160
Pro	Cys	Ile	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His	165	170	175	
Phe	Tyr	Cys	Asp	Ile	Ala	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr	180	185	190	
Tyr	Ile	Pro	Glu	Thr	Ile	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Leu	Phe	195	200	205	
Phe	Ser	Met	Ile	Thr	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser	210	215	220	
Ile	Leu	Arg	Ile	Arg	Ser	Pro	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr	225	230	235	240
Cys	Ala	Ser	His	Met	Ile	Ala	Val	Thr	Val	Phe	Tyr	Gly	Thr	Met	Leu	245	250	255	
Phe	Met	Tyr	Leu	Gln	Pro	Gln	Thr	Asn	His	Ser	Leu	Asp	Thr	Asp	Lys	260	265	270	
Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	275	280	285	
Ile	Tyr	Ser	Leu	Arg	Asn	Asn	Asp	Val	Asn	Val	Ala	Leu	Lys	Lys	Phe	290	295	300	
Met	Glu	Asn	Pro	Cys	Tyr	Ser	Phe	Lys	Ser	Met	305	310	315						

<210> 446  
<211> 948  
<212> DNA  
<213> Homo sapiens

<400> 446  
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gggaacctgg gcatcatcac cctcaccagt gttgactctc gacttcaaac ccccatgtac 180  
tttttcctga gacatctagc tatcatcaat cttggcaact ctactgtcat tgcccctaaa 240  
atgctgatga acttttttagt aaagaagaaa actacctcat tctatgaatg tgccacccaa 300  
ctgggagggt tcttggttctt tattgtatcg gaggtaatga tgctggctgt gatggcctat 360  
gaccgctatg tggccatttg taaccctctg ctctacatgg tgggtgggtgc tcggcgggtc 420  
tgctcctgc tggtgtccct cacgtacctc tatggctttt ctacagctat tgtggtttca 480  
ccttgatat tctctgtgct ttattgctct tctaataata tcaatcattt ttactgtgat 540  
attgcacctc tgtagcatt atcttgctct gatacttaca taccagaaac aatagtcttt 600  
atatctgcag caacaaattt gtttttttcc atgattacag ttctagtatc ttatttcaat 660  
attgttttgt ccattctaag gatacgttca ccagaaggaa ggaaaaaagc cttttccacc 720  
tgcgcttcgc atatgatagc agtcacggtt ttctatggga caatgctatt tatgtatttg 780  
cagcccaaaa ccaaccactc actggatact gataagatgg cttctgtggt ttacacattg 840  
gtgattccta tgctgaatcc cttgatctac agcctgagga ataatgatgt aaatgttgcc 900  
ttaaagaaat tcatggaaaa tccatgttac tcctttaaat caatgtaa 948

<210> 447  
<211> 310  
<212> PRT  
<213> Homo sapiens

<400> 447  
Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val Leu His Gly  
1 5 10 15  
Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe Phe  
20 25 30  
Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr  
35 40 45  
Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu  
50 55 60  
Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro  
65 70 75 80  
Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly  
85 90 95  
Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu  
100 105 110  
Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
115 120 125  
Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg  
130 135 140  
Leu Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln  
145 150 155 160  
Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp

165	170	175
Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp		
180	185	190
Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser		
195	200	205
Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu		
210	215	220
Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr		
225	230	235
Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile		
245	250	255
Phe Val Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu		
260	265	270
Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr		
275	280	285
Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn		
290	295	300
Arg Arg Val Thr Phe Gln		
305	310	

<210> 448  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 448

atggaccac	agaactattc	cttgggtgtca	gaatttgtgt	tgcattggact	ctgcacttca	60
cgacatcttc	aaaatttttt	ctttatatatt	ttctttgggg	tctatgtggc	cattatgctg	120
ggtaaccttc	tcatttttgg	cactgtaatt	tctgatccct	gcctgcactc	ctcccctatg	180
tacttctgc	tggggaacct	agctttcctg	gacatgtggc	tggcctcatt	tgccactccc	240
aagatgatca	gggatttcct	tagtgatcaa	aaactcatct	cctttggagg	atgtatggct	300
caaattctct	tcttgcactt	tactgggtggg	gctgagatgg	tgctcctggg	ttccatggcc	360
tatgacagat	atgtggccat	atgcaaacc	ttgcattaca	tgactttgat	gagttggcag	420
acttgcac	ggctgggtgct	ggcttcatgg	gtcgttggat	ttgtgcactc	catcagtc	480
gtggctttca	ctgtaaattt	gccttactgt	ggccccaatg	aggtagacag	cttcttctgt	540
gacctccctc	tgggtgatcaa	acttgcctgc	atggacacct	atgtcttggg	tataaattatg	600
atctcagaca	gtgggttgc	ttccttgagc	tgttttctgc	tcctcctgat	ctcctacacc	660
gtgatcctcc	tcgctatcag	acagcgtgct	gccggtagca	catccaaagc	actctccact	720
tgctctgcac	atatcatggg	agtgacgctg	ttctttggcc	cttgcatatt	tgtttatgtg	780
cgccctttca	gtaggttctc	tgtggacaag	ctgctgtctg	tgttttatac	catttttact	840
ccactcctga	acccattat	ctacacattg	agaaatgagg	agatgaaagc	agctatgaag	900
aaactgcaaa	accgacgggt	gacttttcaa	tga			933

<210> 449  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 449  
 Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly

1	5	10	15
Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu	20	25	30
Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu	35	40	45
Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg	50	55	60
Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg	65	70	75
Thr Leu Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln	85	90	95
Gly Cys Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu	100	105	110
Cys Cys Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys	115	120	125
Gln Pro Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Leu Ala	130	135	140
Met Val Gly Ser Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His	145	150	155
Ala Ser Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro	165	170	175
His Phe Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly	180	185	190
Lys His Arg Ser Glu Ile Ser Val Met Thr Ala Thr Ile Val Phe Ile	195	200	205
Met Ile Pro Phe Ser Leu Ile Val Thr Ser Tyr Ile Arg Ile Leu Gly	210	215	220
Ala Ile Leu Ala Met Ala Ser Thr Gln Ser Arg Arg Lys Val Phe Ser	225	230	235
Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Phe Gly Thr Ala	245	250	255
Ser Ile Thr Tyr Ile Arg Pro Gln Ala Gly Ser Ser Val Thr Thr Asp	260	265	270
Arg Val Leu Ser Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro	275	280	285
Ile Ile Tyr Thr Leu Arg Asn Lys Asp Val Arg Arg Ala Leu Arg His	290	295	300
Leu Val Lys Arg Gln Arg Pro Ser Pro	305	310	

<210> 450

<211> 942  
<212> DNA  
<213> Homo sapiens

<400> 450  
atggctgggg aaaaccatac tacactgcct gaattcctcc ttctgggatt ctctgacctc 60  
aaggccctgc agggccccct gttctgggtg gtgcttctgg tctacctggt cacccttgctg 120  
ggtaactccc tgatcatcct cctcacacag gtcagccctg ccctgcactc ccccatgtac 180  
ttcttctctgc gccaaactctc agtggtggag ctcttctaca ccactgacat cgtgcccagg 240  
accctggcca atctgggctc cccgcatccc caggccatct ctttccaggg ctgtgcagcc 300  
cagatgtacg tcttcattgt cctgggcata tcggagtgtc gcctgctcac ggccatggcc 360  
tatgaccgat atgttgccat ctgccagccc ctacgctatt ccaccctctt gagcccacgg 420  
gcctgcttgg ccatgggtggg gtccctcctgg ctacacaggca tcatcacggc caccacccat 480  
gcctccctca tcttctctct accttttctgc agccaccgca tcatcccgca ctttctctgt 540  
gacatcctgc cagtactgag gctgggaagt gctgggaagc acaggagcga gatctccgtg 600  
atgacagcca ccatagtctt cattatgata cccttctctc tgattgtcac ctcttacatc 660  
cgcatacctgg gtgccatcct agcaatggcc tccaccacaga gccgccgcaa ggtcttctcc 720  
acctgctcct cccatctgct cgtgggtctct ctcttctttg gaacagccag catcacctac 780  
atccggccgc aggcaggctc ctctgttacc acagaccgcg tcctcagtct cttctacaca 840  
gtcatcacac ccatgctcaa ccccatcatc tacacccttc ggaacaagga cgtgaggagg 900  
gccctgcgac acttggtgaa gaggcagcgc ccctcaccct ga 942

<210> 451  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 451  
Met Pro Gln Ile Leu Ile Phe Thr Tyr Leu Asn Met Phe Tyr Phe Phe  
1 5 10 15  
Pro Pro Leu Gln Ile Leu Ala Glu Asn Leu Thr Met Val Thr Glu Phe  
20 25 30  
Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile Gln Leu Ala Leu Phe  
35 40 45  
Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu Ser Gly Asn Val Thr  
50 55 60  
Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu His Thr Pro Met Tyr  
65 70 75 80  
Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr Phe Tyr Thr Phe Val  
85 90 95  
Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser Val Ala Arg Thr Ile  
100 105 110  
Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe Phe Leu Gly Phe Ala  
115 120 125  
Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala  
130 135 140  
Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu Met Ser Trp Gln Val  
145 150 155 160  
Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly Gly Phe Leu Ala Ser  
165 170 175



Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro Phe Cys Ser Ala Asn  
 180 185 190  
 Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala Val Ile Leu Leu Ala  
 195 200 205  
 Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile Phe Ile Cys Gly Val  
 210 215 220  
 Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys Val Ser Tyr Leu Cys  
 225 230 235 240  
 Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Arg Lys  
 245 250 255  
 Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val Val Ile Val His Tyr  
 260 265 270  
 Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr Ala Asn Tyr Val Ser  
 275 280 285  
 Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr Ile Val Thr Pro Leu  
 290 295 300  
 Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys Asp Val Gln Leu Ala  
 305 310 315 320  
 Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu Lys Leu Tyr Asn  
 325 330 335

<210> 452  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<400> 452  
 atgccccaaa ttcttatatt cacatacctg aatatgtttt acttctttcc ccctttgcag 60  
 atcttggcag aaaacctcac catgggcacc gaattcctgt tgctggggtt ttccagcctt 120  
 ggtgaaattc agctggccct cttttagtatt tttctttttc tgtatctagt cattcttagt 180  
 ggcaatgtca ccattatcag tgtcatccac ctggataaaa gcctccacac accaatgtac 240  
 ttcttccttg gcattctctc aacatctgag accttctaca cttttgtcat tctacccaag 300  
 atgctcatca atctactttc tgtggccagg acaatctcct tcaactgttg tgctcttcaa 360  
 atgttcttct tcttgggtt tgccattacc aactgcctgc tattgggtgt gatgggttat 420  
 gatcgctatg ctgccatttg tcaccctctg cattacccca ctcttatgag ctggcagggtg 480  
 tgtggaaaac tggcagctgc ctgtgcaatt ggtggcttct tggcctctct tacagtagta 540  
 aatttagttt tcagcctccc tttttgtagc gccaacaaag tcaatcatta cttctgtgac 600  
 atctcagcag tcattcttct ggcttgtacc aacacagatg ttaacgaatt tgtgatattc 660  
 atttgtggag ttcttgtagt tgtgggtccc tttctgttta tctgtgttct ttatctctgc 720  
 attctgagga ctatcctgaa gattccctca gctgagggca gacggaaagc gttttccacc 780  
 tgcgcctctc acctcagtgt tgttattgtt cattatggct gtgcttcctt catctacctg 840  
 aggctacag caaactatgt gtccaacaaa gacaggctgg tgacgggtgac atacacgatt 900  
 gtcactccat tactaaacct catggtttat agcctcagaa acaaggatgt ccaacttgct 960  
 atcagaaaag tgttggggcaa gaaagggttct ctaaaactat ataattga 1008

<210> 453  
 <211> 308  
 <212> PRT  
 <213> Homo sapiens

<400> 453

Met Asn Thr Thr Leu Phe His Pro Tyr Ser Phe Leu Leu Leu Gly Ile  
1 5 10 15

Pro Gly Leu Glu Ser Met His Leu Trp Val Gly Phe Pro Phe Phe Ala  
20 25 30

Val Phe Leu Thr Ala Val Leu Gly Asn Ile Thr Ile Leu Phe Val Ile  
35 40 45

Gln Thr Asp Ser Ser Leu His His Pro Met Phe Tyr Phe Leu Ala Ile  
50 55 60

Leu Ser Ser Ile Asp Pro Gly Leu Ser Thr Ser Thr Ile Pro Lys Met  
65 70 75 80

Leu Gly Thr Phe Trp Phe Thr Leu Arg Glu Ile Ser Phe Glu Gly Cys  
85 90 95

Leu Thr Gln Met Phe Phe Ile His Leu Cys Thr Gly Met Glu Ser Ala  
100 105 110

Val Leu Val Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Asp Pro  
115 120 125

Leu Cys Tyr Thr Leu Val Leu Thr Asn Lys Val Val Ser Val Met Ala  
130 135 140

Leu Ala Ile Phe Leu Arg Pro Leu Val Phe Val Ile Pro Phe Val Leu  
145 150 155 160

Phe Ile Leu Arg Leu Pro Phe Cys Gly His Gln Ile Ile Pro His Thr  
165 170 175

Tyr Gly Glu His Met Gly Ile Ala Arg Leu Ser Cys Ala Ser Ile Arg  
180 185 190

Val Asn Ile Ile Tyr Gly Leu Cys Ala Ile Ser Ile Leu Val Phe Asp  
195 200 205

Ile Ile Ala Ile Val Ile Ser Tyr Val Gln Ile Leu Cys Ala Val Phe  
210 215 220

Leu Leu Ser Ser His Asp Ala Arg Leu Lys Ala Phe Ser Thr Cys Gly  
225 230 235 240

Ser His Val Cys Val Met Leu Thr Phe Tyr Met Pro Ala Phe Phe Ser  
245 250 255

Phe Met Thr His Arg Phe Gly Arg Asn Ile Pro His Phe Ile His Ile  
260 265 270

Leu Leu Ala Asn Phe Tyr Val Val Ile Pro Pro Ala Leu Asn Ser Val  
275 280 285

Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Ala Gln Val Leu Lys Met  
290 295 300

Phe Phe Asn Lys  
305

<210> 454  
<211> 927  
<212> DNA  
<213> Homo sapiens

<400> 454  
atgaataacca ctctatatttca tccttactct ttccttcttc tgggaattcc tgggctggaa 60  
agtatgcac tctgggttgg ttttcctttc tttgctgtgt tcctgacagc tgtccttggg 120  
aatacacca tcctttttgt gattcagact gacagtagtc tccatcatcc catgttctac 180  
ttcctggcca ttctgtcatc tattgacctg ggctgtctca catccacat ccctaaaatg 240  
cttggcacct tctggtttac cctgagagaa atctcctttg aaggatgcct taccagatg 300  
ttcttcatcc acctgtgcac tggcatggaa tcagctgtgc ttgtggccat ggctatgat 360  
tgctatgtgg ccatctgtga ccctccttgc tacacgttgg tgctgacaaa caaggtggtg 420  
tcagttatgg cactggccat ctttctgaga cccttagtct ttgtcatacc ctttgttcta 480  
tttatcctaa ggcttccatt ttgtggacac caaattattc ctcatactta tggtgagcac 540  
atgggcatgt cccgcctgtc ttgtgccagc atcagggtta acatcatcta tggcttatgt 600  
gccatctcta tcctgggtct tgacatcata gcaattgtca tttcctatgt acagatcctt 660  
tgtgtgttat ttctactctc ttcacatgat gcacgactca aggcattcag cacctgtggc 720  
tctcatgtgt gtgtcatgtt gactttctat atgcctgcat ttttctcatt catgacccat 780  
aggtttggtc ggaatatacc tcactttatc cacattcttc tggctaattt ctatgtagtc 840  
attccacctg ctctcaactc tgtaatttat ggtgtcagaa ccaaacagat tagagcacia 900  
gtgctgaaaa tgtttttcaa taaataa 927

<210> 455  
<211> 313  
<212> PRT  
<213> Homo sapiens

<400> 455  
Met Glu Gln Val Asn Lys Thr Val Val Arg Glu Phe Val Val Leu Gly  
1 5 10 15  
Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
20 25 30  
Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
35 40 45  
Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60  
Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Val Ile Val Pro Lys  
65 70 75 80  
Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
85 90 95  
Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser  
100 105 110  
Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn  
115 120 125  
Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
130 135 140  
Met Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ser Leu Val Thr Thr  
145 150 155 160

Ser Leu Val Phe His Leu Pro Phe His Ser Ser Asn Gln Leu His His  
 165 170 175  
 Phe Phe Cys Asp Ile Ser Pro Val Leu Lys Leu Ala Ser Gln His Ser  
 180 185 190  
 Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val  
 195 200 205  
 Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Ile Arg Ile Ile Ser Ala  
 210 215 220  
 Ile Leu Lys Ile Pro Ser Ser Val Gly Arg Tyr Lys Thr Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser  
 245 250 255  
 Phe Ile Tyr Leu Arg Pro Lys Thr Asn Tyr Thr Ser Ser Gln Asp Thr  
 260 265 270  
 Leu Ile Ser Val Ser Tyr Thr Ile Leu Thr Pro Leu Phe Asn Pro Met  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Arg Arg Thr  
 290 295 300  
 Ile Gly Gln Thr Phe Tyr Pro Leu Ser  
 305 310

<210> 456  
 <211> 942  
 <212> DNA  
 <213> Homo sapiens

<400> 456  
 atggagcaag tcaataagac tgtggtgaga gagttcgtcg tcctcggctt ctcacccctg 60  
 gccaggctgc agcagctgct ctttggtatc ttcctgctcc tctacctgtt cactctgggc 120  
 accaatgcaa tcatcatttc caccattgtg ctggacagag cccttcatac tcccatgtac 180  
 ttcttccttg ccaccccttc ttgctctgag atttgctata cctttgtcat tgtacccaag 240  
 atgctgggtg acctgctgtc ccagaagaag accatttctt tcctgggctg tgccatccaa 300  
 atgttttctt tctctctctt tggctcctct cactccttcc tgctggcagc catgggctat 360  
 gatcgctata tggccatctg taacccactg cgctactcag tgctcatggg acatgggggtg 420  
 tgtatgggac taatggctgc tgcctgtgcc tgtggcttca ctgtctccct ggtcaccacc 480  
 tccctagtat ttcatctgcc cttccactcc tccaaccagc tccatcactt cttctgtgac 540  
 atctcccttg tccttaaact ggcattctcag cactccggct tcagtcagct ggtcatattc 600  
 atgcttggtg tatttgctt ggatcattct ctgctactta tctagtctc ctacatccgc 660  
 atcatctctg ccattctaaa aatcccttcc tccgttgga gatacaagac cttctccacc 720  
 tgtgcctccc atctcattgt ggtaactgtt cactacagtt gtgcctcttt catctactta 780  
 aggcccaaga ctaattacac ttcaagccaa gacaccctaa tatctgtgtc atacaccatc 840  
 cttaccccat tgttcaatcc aatgatttat agtctgagaa ataaggaatt caaatcagcc 900  
 ctacgaagaa caatcggcca aactttctat cctcttagtt aa 942

<210> 457  
 <211> 369  
 <212> PRT  
 <213> Homo sapiens

<400> 457

Met	Trp	Gln	Glu	Tyr	Tyr	Phe	Leu	Asn	Val	Phe	Phe	Pro	Leu	Leu	Lys
1				5					10					15	
Val	Cys	Cys	Leu	Thr	Ile	Asn	Ser	His	Val	Val	Ile	Leu	Leu	Pro	Trp
			20					25					30		
Glu	Cys	Tyr	His	Leu	Ile	Trp	Lys	Ile	Leu	Pro	Tyr	Ile	Gly	Thr	Thr
		35					40					45			
Val	Gly	Ser	Met	Glu	Glu	Tyr	Asn	Thr	Ser	Ser	Thr	Asp	Phe	Thr	Phe
	50					55					60				
Met	Gly	Leu	Phe	Asn	Arg	Lys	Glu	Thr	Ser	Gly	Leu	Ile	Phe	Ala	Ile
65					70					75					80
Ile	Ser	Ile	Ile	Phe	Phe	Thr	Ala	Leu	Met	Ala	Asn	Gly	Val	Met	Ile
				85					90					95	
Phe	Leu	Ile	Gln	Thr	Asp	Leu	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu
			100					105					110		
Leu	Ser	His	Leu	Ser	Leu	Ile	Asp	Met	Met	Tyr	Ile	Ser	Thr	Ile	Val
		115					120					125			
Pro	Lys	Met	Leu	Val	Asn	Tyr	Leu	Leu	Asp	Gln	Arg	Thr	Ile	Ser	Phe
	130					135					140				
Val	Gly	Cys	Thr	Ala	Gln	His	Phe	Leu	Tyr	Leu	Thr	Leu	Val	Gly	Ala
145					150					155					160
Glu	Phe	Phe	Leu	Leu	Gly	Leu	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile
			165						170					175	
Cys	Asn	Pro	Leu	Arg	Tyr	Pro	Val	Leu	Met	Ser	Arg	Arg	Val	Cys	Trp
			180					185					190		
Met	Ile	Ile	Ala	Gly	Ser	Trp	Phe	Gly	Gly	Ser	Leu	Asp	Gly	Phe	Leu
	195						200					205			
Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Asn	Ser	Arg	Glu	Ile
	210					215						220			
Asn	His	Phe	Phe	Cys	Glu	Ala	Pro	Ala	Val	Leu	Lys	Leu	Ala	Cys	Ala
225					230					235					240
Asp	Thr	Ala	Leu	Tyr	Glu	Thr	Val	Met	Tyr	Val	Cys	Cys	Val	Leu	Met
			245						250					255	
Leu	Leu	Ile	Pro	Phe	Ser	Val	Val	Leu	Ala	Ser	Tyr	Ala	Arg	Ile	Leu
			260					265					270		
Thr	Thr	Val	Gln	Cys	Met	Ser	Ser	Val	Glu	Gly	Arg	Lys	Lys	Ala	Phe
		275					280					285			
Ala	Thr	Cys	Ser	Ser	His	Met	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Ala
	290					295					300				
Ala	Met	Tyr	Thr	Tyr	Met	Leu	Pro	His	Ser	Tyr	His	Lys	Pro	Ala	Gln
305					310					315					320

Asp Lys Val Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn  
325 330 335

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys  
340 345 350

Arg Ala Leu Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val  
355 360 365

Phe

<210> 458  
<211> 1110  
<212> DNA  
<213> Homo sapiens

<400> 458  
atgtggcaag aataactatatt tttaaatggt ttcttccac ttttaaaagt ttgctgccta 60  
acaattaatt cacatgttgt tattttactg ccctgggaat gctatcatct tatttggaag 120  
atattacctt atatcggcac aactgtagga tcaatggaag agtacaacac atcctctaca 180  
gacttcactt tcatggggct gttcaacaga aaggaaacct caggtcttat ttttgccatc 240  
atctctatca tcttcttcac cgactgatg gccaatgggg ttatgatctt cctgatccaa 300  
acagatttgc gccttcatac acccatgtac ttctctctca gccaccttct ctttaattgac 360  
atgatgtata tttccactat tgtgcctaag atgctgggta attacctgct ggatcaaagg 420  
accatttcct ttgtgggggtg cacagctcaa cacttctctt accttaccct tgtgggagct 480  
gaattcttcc tgctgggcct catggcctat gaccgctatg tggccatttg caaccctctg 540  
agataccctg tcctcatgag ccgccggggtc tgttggatga ttatagcagg ttctctgggtt 600  
gggggctctt tggatggcct cctcctaacc cccatcacca tgagctttcc cttctgcaat 660  
tcccgggaga ttaaccactt cttctgtgag gcaccagcag tcctgaagtt ggcagtgtga 720  
gacacagccc tctacgagac agtgatgtat gtgtgctgtg ttttgatgct gctgattcct 780  
ttctctgtag tccttgcttc ctatgccga atcctgacta cagttcagtg catgagctca 840  
gtggagggca ggaagaaggc atttgccact tgcctatccc acatgactgt ggtgtccttg 900  
ttctacgggg ctgccatgta cacctacatg ctgccacatt cttaccacaa gccagcccag 960  
gacaaagtcc tctctgtgtt ttacaccatt ctcacacca tgctgaacct cctcatctac 1020  
agccttagaa acaaggatgt gactggagct ctgaagaggg ccttggggag gttcaagggt 1080  
cctcaaaggg tgtcaggagg tgtcttttga 1110

<210> 459  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 459  
Met Asp Leu Lys Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15  
Phe Phe Gly Arg Trp Glu Leu Gln Ile Phe Phe Phe Val Thr Phe Ser  
20 25 30  
Leu Ile Tyr Gly Ala Thr Val Met Gly Asn Ile Leu Ile Met Val Thr  
35 40 45  
Val Thr Cys Arg Ser Thr Leu His Ser Pro Leu Tyr Phe Leu Leu Gly  
50 55 60  
Asn Leu Ser Phe Leu Asp Met Cys Leu Ser Thr Ala Thr Thr Pro Lys  
65 70 75 80

Met Ile Ile Asp Leu Leu Thr Asp His Lys Thr Ile Ser Val Trp Gly  
                     85                    90                    95  
 Cys Val Thr Gln Met Phe Phe Met His Phe Phe Gly Gly Ala Glu Met  
                     100                    105                    110  
 Thr Leu Leu Ile Ile Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
                     115                    120                    125  
 Pro Leu His Tyr Arg Thr Ile Met Ser His Lys Leu Leu Lys Gly Phe  
                     130                    135                    140  
 Ala Ile Leu Ser Trp Ile Ile Gly Phe Leu His Ser Ile Ser Gln Ile  
                     145                    150                    155                    160  
 Val Leu Thr Met Asn Leu Pro Phe Cys Gly His Asn Val Ile Asn Asn  
                     165                    170                    175  
 Ile Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Ile Glu Thr  
                     180                    185                    190  
 Tyr Thr Leu Glu Leu Phe Val Ile Ala Asp Ser Gly Leu Leu Ser Phe  
                     195                    200                    205  
 Thr Cys Phe Ile Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Val Ser  
                     210                    215                    220  
 Val Pro Lys Lys Ser Ser His Gly Leu Ser Lys Ala Leu Ser Thr Leu  
                     225                    230                    235                    240  
 Ser Ala His Ile Ile Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe  
                     245                    250                    255  
 Ile Tyr Val Trp Pro Phe Ser Ser Leu Ala Ser Asn Lys Thr Leu Ala  
                     260                    265                    270  
 Val Phe Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Ser Ile Tyr Thr  
                     275                    280                    285  
 Leu Arg Asn Lys Lys Met Gln Glu Ala Ile Arg Lys Leu Arg Phe Gln  
                     290                    295                    300  
 Tyr Val Ser Ser Ala Gln Asn Phe  
                     305                    310

<210> 460

<211> 939

<212> DNA

<213> Homo sapiens

<400> 460

atggatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga 60  
 tgggaacttc aaattttctt ctttgtgaca ttttccctga tctacggtgc tactgtgatg 120  
 ggaaacattc tcattatggt cacagtgaca tgtagggtcaa cccttcattc tcccttgtac 180  
 tttctccttg gaaatctctc ttttttggac atgtgtctct ccaactgccac aacacccaag 240  
 atgatcatag atttgctcac tgaccacaag accatctctg tgtggggctg cgtgacccag 300  
 atgttcttca tgcacttctt tgggggtgct gagatgactc ttctgataat catggccttt 360  
 gacagggtatg tagccatatg taaacccctg cactatagga caatcatgag ccacaagctg 420  
 ctaaaggggt ttgcgatact ttcatggata attgggtttt tacactccat aagccagata 480  
 gttttaacaa tgaacttgcc tttctgtggc cacaatgtca taaacaacat attttgtgat 540

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cttcccccttg tgatcaagct tgcttgcatt gaaacataca ccctggaatt atttgtcatt 600
gctgacagcg ggctgctctc tttcacctgt ttcatectct tgcttgtttc ttacattgtc 660
atcctgggtca gtgtaccaaa aaaatcatca catgggctct ccaaggcgct gtccacattg 720
tctgcccaca tcattgtggt cactctgttc tttggacctt gtatttttat ctatgtttgg 780
ccattcagta gtttggcaag caataaaact cttgccgtat tttatacagt tatcacaccc 840
ttactgaatc cgagtattta taccctgaga aataagaaaa tgcaagaggc cataagaaaa 900
ttacggttcc aatatgtagg ttctgcacag aatttctag 939

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<210> 461  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

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<400> 461
Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
  1              5              10              15

Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu
      20              25              30

Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu
      35              40              45

Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
      50              55              60

His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys
      65              70              75              80

Met Leu Met Asp Met Arg Thr Lys Tyr Lys Ser Ile Leu Tyr Glu Glu
      85              90              95

Cys Ile Ser Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Ser
      100              105              110

Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
      115              120              125

Pro Leu His Tyr Thr Val Ile Met Arg Glu Glu Leu Cys Val Phe Leu
      130              135              140

Val Ala Val Ser Trp Ile Leu Ser Cys Ala Ser Ser Leu Ser His Thr
      145              150              155              160

Leu Leu Leu Thr Arg Leu Ser Phe Cys Ala Ala Asn Thr Ile Pro His
      165              170              175

Val Phe Cys Asp Leu Ala Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile
      180              185              190

Phe Leu Asn Glu Leu Val Met Phe Thr Val Gly Val Val Val Ile Thr
      195              200              205

Leu Pro Phe Met Cys Ile Leu Val Ser Tyr Gly Tyr Ile Gly Ala Thr
      210              215              220

Ile Leu Arg Val Pro Ser Thr Lys Gly Ile His Lys Ala Leu Ser Thr
      225              230              235              240

Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Ser Ile Phe

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245                      250                      255  
 Gly Gln Tyr Leu Phe Pro Thr Val Ser Ser Ser Ile Asp Lys Asp Val  
                     260                      265                      270  
 Ile Val Ala Leu Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
                     275                      280                      285  
 Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu Gly Lys Leu  
                     290                      295                      300  
 Phe Ser Arg Ala Thr Phe Phe Ser Trp  
 305                      310

<210> 462  
 <211> 966  
 <212> DNA  
 <213> Homo sapiens

<400> 462  
 atgagccctg agaaccagag cagcgtgtcc gagttcctcc ttctgggcct ccccatccgg 60  
 ccagagcagc aggctgtgtt cttcacccctg ttccctgggca tgtacctgac cacggtgctg 120  
 gggaacctgc tcatcatgct gctcatccag ctggactctc accttcacac ccccatgtac 180  
 ttcttctctca gccacttggc tctcactgac atctcctttt catctgtcac tgtccctaag 240  
 atgctgatgg acatgctggc taagtacaaa tcgactcctct atgaggaatg catttctcag 300  
 atgtattttt ttatatatttt tactgacctg gacagcttcc ttattacatc aatggcatat 360  
 gaccgatatg ttgccatag taccctctc cactacactg tcatcatgag ggaagagctc 420  
 tgtgtcttct tagtggctgt atcttggatt ctgtcttgtg ccagctccct ctctcacacc 480  
 cttctcctga cccggtgtgc tttctgtgct gcgaacacca tcccccatgt cttctgtgac 540  
 cttgctgccc tgcctcaagct gtccctgctca gatattcttc tcaatgagct ggtcatgttc 600  
 acagtagggg tgggtggctat taccctgcca ttcatgtgta tcctgggtatc atatggctac 660  
 attggggcca ccatcctgag ggtcccttca accaaaggga tccacaaagc attgtccaca 720  
 tgtggctccc atctctctgt ggtgtctctc tattatgggt caatatttgg ccagtacctt 780  
 ttcccgactg taagcagttc tattgacaag gatgtcattg tggctctcat gtacacggtg 840  
 gtcacaccca tgttgaacct ctttatctac agccttagga acaggacat gaaagargcc 900  
 cttgggaaac tcttcagtag agcaacattt ttctccttgg tgacatctga ctttttaaaa 960  
 aattag 966

<210> 463  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 463  
 Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu  
   1                      5                      10                      15  
 Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
                     20                      25                      30  
 Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
                     35                      40                      45  
 Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg  
                     50                      55                      60  
 His Leu Ala Ser Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys  
                     65                      70                      75                      80

Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala  
                     85                    90                    95  
 Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe  
                     100                    105                    110  
 Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
                     115                    120                    125  
 Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu  
                     130                    135                    140  
 Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr  
                     145                    150                    155                    160  
 Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His  
                     165                    170                    175  
 Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala  
                     180                    185                    190  
 Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile  
                     195                    200                    205  
 Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala  
                     210                    215                    220  
 Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
                     225                    230                    235                    240  
 Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu  
                     245                    250                    255  
 Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys  
                     260                    265                    270  
 Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
                     275                    280                    285  
 Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu  
                     290                    295                    300  
 Phe Glu Asn  
 305

<210> 464  
 <211> 924  
 <212> DNA  
 <213> Homo sapiens

<400> 464  
 atgggccaac acaatctaac agtgctaact gaattcattc tgatggaact cacaaggcgg 60  
 cctgagctgc agattccctt ttttgagatc ttctcgtca tctacctaac cacagtgggtg 120  
 ggcaacctaa ctatgatcat tttgaccaa ctggactccc acttacatac acctatgtac 180  
 ttttctatca gacatttggc ttctgttgat cttggtaatt ctactgtcat ttgtcccaag 240  
 gtgctggcaa attttgttgt ggatcgaaat actatttcct attatgcatg tgctgcacag 300  
 ctggcattct tccttatgtt cattatcagt gaatttttca tcctgtcagc catggcctat 360  
 gaccgctatg tggccatttg taaccctctg ctctattatg ttattatgtc tcagcgactg 420  
 tgtcatgtac tgggtgggcat tcaatatctc tacagcacat ttcaggctct gatgttcact 480  
 attaagattt ttacattgac cttctgtggc tctaattgtca tcagtcattt ttactgtgat 540

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gatgttcctt tgctacctat gctttgctca aatgcacagg aaatagaatt gttgagcata 600
ctattttctg tattttaattt gatctcctcc tttctgatag tcttagtgtc ctacatgttg 660
attttgttag ctatatgtca aatgcattct gcagagggca ggaaaaaggc tttctccaca 720
tgtggttccc atttgacagt ggtgggttggt ttctatgggt ctctactctt catgtacatg 780
cagcccaatt ccactcactt ctttgatact gataaaatgg cttctgtggt ttacacttta 840
gtaatcccca tgcttaaccc tttgatttac agcttaagaa acgaagaggt gaaaaatgcc 900
ttctataagc tctttgagaa ttga 924

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<210> 465  
 <211> 340  
 <212> PRT  
 <213> Homo sapiens

<400> 465

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Met Pro Cys Met Pro Cys Ala Leu Pro Thr Gly Gly Leu Leu Pro His
  1              5              10              15

Pro Gln His Thr Met Met Glu Ile Ala Asn Val Ser Ser Pro Glu Val
      20              25              30

Phe Val Leu Leu Gly Phe Ser Thr Arg Pro Ser Leu Glu Thr Val Leu
      35              40              45

Phe Ile Val Val Leu Ser Phe Tyr Met Val Ser Ile Leu Gly Asn Gly
      50              55              60

Ile Ile Ile Leu Val Ser His Thr Asp Val His Leu His Thr Pro Met
      65              70              75              80

Tyr Phe Phe Leu Ala Asn Leu Pro Phe Leu Asp Met Ser Phe Thr Thr
      85              90              95

Ser Ile Val Pro Gln Leu Leu Ala Asn Leu Trp Gly Pro Gln Lys Thr
      100             105             110

Ile Ser Tyr Gly Gly Cys Val Val Gln Phe Tyr Ile Ser His Trp Leu
      115             120             125

Gly Ala Thr Glu Cys Val Leu Leu Ala Thr Met Ser Tyr Asp Arg Tyr
      130             135             140

Ala Ala Ile Cys Arg Pro Leu His Tyr Thr Val Ile Met His Pro Gln
      145             150             155             160

Leu Cys Leu Gly Leu Ala Leu Ala Ser Trp Leu Gly Gly Leu Thr Thr
      165             170             175

Ser Met Val Gly Ser Thr Leu Thr Met Leu Leu Pro Leu Cys Gly Asn
      180             185             190

Asn Cys Ile Asp His Phe Phe Cys Glu Met Pro Leu Ile Met Gln Leu
      195             200             205

Ala Cys Val Asp Thr Ser Leu Asn Glu Met Glu Met Tyr Leu Ala Ser
      210             215             220

Phe Val Phe Val Val Leu Pro Leu Gly Leu Ile Leu Val Ser Tyr Gly
      225             230             235             240

His Ile Ala Arg Ala Val Leu Lys Ile Arg Ser Ala Glu Gly Arg Arg

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Val Thr Glu Phe His Leu Leu Gly Phe Gly Val Gln His Glu Phe Gln  
50 55 60  
His Val Leu Phe Ile Val Leu Leu Leu Ile Tyr Val Thr Ser Leu Ile  
65 70 75 80  
Gly Asn Ile Gly Met Ile Leu Leu Ile Lys Thr Asp Ser Arg Leu Gln  
85 90 95  
Thr Pro Met Tyr Phe Phe Pro Gln His Leu Ala Phe Val Asp Ile Cys  
100 105 110  
Tyr Thr Ser Ala Ile Thr Pro Lys Met Leu Gln Ser Phe Thr Glu Glu  
115 120 125  
Asn Asn Leu Ile Thr Phe Arg Gly Cys Val Ile Gln Phe Leu Val Tyr  
130 135 140  
Ala Thr Phe Ala Thr Ser Asp Cys Tyr Leu Leu Ala Ile Met Ala Met  
145 150 155 160  
Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu Arg Tyr Pro Met Ile Met  
165 170 175  
Ser Gln Thr Val Tyr Ile Gln Leu Val Ala Gly Ser Tyr Ile Ile Gly  
180 185 190  
Ser Ile Asn Ala Ser Val His Thr Gly Phe Thr Phe Ser Leu Ser Phe  
195 200 205  
Cys Lys Ser Asn Lys Ile Asn His Phe Phe Cys Asp Gly Leu Pro Ile  
210 215 220  
Leu Ala Leu Ser Cys Ser Asn Ile Asp Ile Asn Ile Ile Leu Asp Val  
225 230 235 240  
Val Phe Val Gly Phe Asp Leu Met Phe Thr Glu Leu Val Ile Ile Phe  
245 250 255  
Ser Tyr Ile Tyr Ile Met Val Thr Ile Leu Lys Met Ser Ser Thr Ala  
260 265 270  
Gly Arg Lys Lys Ser Phe Ser Thr Cys Ala Ser His Leu Thr Ala Val  
275 280 285  
Thr Ile Phe Tyr Gly Thr Leu Ser Tyr Met Tyr Leu Gln Pro Gln Ser  
290 295 300  
Asn Asn Ser Gln Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr  
305 310 315 320  
Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu  
325 330 335  
Gly Lys

<210> 468

<211> 1017

<212> DNA  
<213> Homo sapiens

<400> 468  
atgaaaagtc aaattgaaaa aagtgactta aaatatagag ccattttatt gcaaaaagtc 60  
acaaggatgt tcctgctttt ctgggtcctt ctcttggtcc tttctagact tttggtagtc 120  
atgggtcgag gaaacagcac tgaagtgact gaattccatc ttctgggatt tgggtgccaa 180  
cacgaatttc agcatgtcct ttctattgta cttcttctta tctatgtgac ctccctgata 240  
ggaaatattg gaatgatctt actcatcaag accgattcca gacttcaaac acccatgtac 300  
ttttttccac aacatttggc ttttgttgat atctgttata cttctgctat cactcccaag 360  
atgctccaaa gcttcacaga agaaaataat ttgataacat ttcggggctg tgtgatacaa 420  
ttcttagttt atgcaacatt tgcaaccagt gactgttacc tcctagctat tatggcaatg 480  
gattgttatg ttgccatctg taagccctt cgctatccca tgatcatgtc ccaaacagtc 540  
tacatccaac tcgtagctgg ctcatatatt ataggctcaa taaatgcctc tgtacataca 600  
ggttttacat ttctactgtc cttctgcaag tctaataaaa tcaatcactt tttctgtgat 660  
ggctctcccaa ttcttgccct ttcattgtcc aacattgaca tcaacatcat tctagatgtt 720  
gtctttgtgg gatttgactt gatgttcaact gagttggtca tcactctttc ctacatctac 780  
attatggtca ccactctgaa gatgtcttct actgctggga ggaaaaaatc cttctccaca 840  
tgtgcctccc acctgacagc agtaaccatt ttctatggga cactctctta catgtactta 900  
cagcctcagt ctaataattc tcaggagaat atgaaagtag cctctatatt ttatggcact 960  
gttattccca tgttgaatcc tttaatctat agcttgagaa ataaggaagg aaaataa 1017

<210> 469  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 469  
Met Glu Asn Gln Ser Ser Ile Ser Glu Phe Phe Leu Arg Gly Ile Ser  
1 5 10 15  
Ala Pro Pro Glu Gln Gln Gln Ser Leu Phe Gly Ile Phe Leu Cys Met  
20 25 30  
Tyr Leu Val Thr Leu Thr Gly Asn Leu Leu Ile Ile Leu Ala Ile Gly  
35 40 45  
Ser Asp Leu His Leu His Thr Pro Met Tyr Phe Phe Leu Ala Asn Leu  
50 55 60  
Ser Phe Val Asp Met Gly Leu Thr Ser Ser Thr Val Thr Lys Met Leu  
65 70 75 80  
Val Asn Ile Gln Thr Arg His His Thr Ile Ser Tyr Thr Gly Cys Leu  
85 90 95  
Thr Gln Met Tyr Phe Phe Leu Met Phe Gly Asp Leu Asp Ser Phe Phe  
100 105 110  
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
115 120 125  
Cys Tyr Ser Thr Val Met Arg Pro Gln Val Cys Ala Leu Met Leu Ala  
130 135 140  
Leu Cys Trp Val Leu Thr Asn Ile Val Ala Leu Thr His Thr Phe Leu  
145 150 155 160  
Met Ala Arg Leu Ser Phe Cys Val Thr Gly Glu Ile Ala His Phe Phe  
165 170 175

Cys Asp Ile Thr Pro Val Leu Lys Leu Ser Cys Ser Asp Thr His Ile  
 180 185 190  
 Asn Glu Met Met Val Phe Val Leu Gly Gly Thr Val Leu Ile Val Pro  
 195 200 205  
 Phe Leu Cys Ile Val Thr Ser Tyr Ile His Ile Val Pro Ala Ile Leu  
 210 215 220  
 Arg Val Arg Thr Arg Gly Gly Val Gly Lys Ala Phe Ser Thr Cys Ser  
 225 230 235 240  
 Ser His Leu Cys Val Val Cys Val Phe Tyr Gly Thr Leu Phe Ser Ala  
 245 250 255  
 Tyr Leu Cys Pro Pro Ser Ile Ala Ser Glu Glu Lys Asp Ile Ala Ala  
 260 265 270  
 Ala Ala Met Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Phe Ile Tyr  
 275 280 285  
 Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Lys Arg Leu Phe Ser  
 290 295 300  
 His Arg Ser Ile Val Ser Ser  
 305 310

<210> 470  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 470  
 atggaaaacc aatccagcat ttctgaattt ttctccgag gaatatcagc gcctccagag 60  
 caacagcagt ccctcttcgg aattttcctg tgtatgtatc ttgtcacctt gactgggaac 120  
 ctgctcatca tcctggccat tggtctgac ctgcacctcc acacccccat gtactttttc 180  
 ttggccaacc tgtcttttgt tgacatgggt ttaacgtcct ccacagttac caagatgctg 240  
 gtgaatatac agactcggca tcacaccatc tcctatacgg gttgcctcac gcaaatgtat 300  
 ttctttctga tgtttggtga tctagacagc ttcttcctgg ctgccatggc gtatgaccgc 360  
 tatgtggcca tttgccacc cctctgctac tccacagtca tgaggcccca agtctgtgcc 420  
 ctaatgcttg cattgtgctg ggtcctcacc aatateggtt ccctgactca caggttcttc 480  
 atggctcggg tgtccttctg tgtgactggg gaaattgctc actttttctg tgacatcact 540  
 cctgtcctga agctgtcatg ttctgacacc cacatcaacg agatgatggg ttttgtcttg 600  
 ggaggcaccg tactcatcgt ccccttttta tgcattgtca cctcctacat ccacattgtg 660  
 ccagctatcc tgagggtccg aacccgtggg ggggtgggca aggccttttc cacctgcagt 720  
 tcccacctct gcgttgtttg tgtgttctat gggaccctct tcagtgccta cctgtgtcct 780  
 ccttcattg cctctgaaga gaaggacatt gcagcagctg caatgtacac catagtgact 840  
 cccatggtga acccctttat ctatagccta aggaacaagg acatgaaggg ggccctaaag 900  
 aggctcttca gtcacaggag tattgtttcc tcttag 936

<210> 471  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 471  
 Met Glu Gly Asn Lys Thr Trp Ile Thr Asp Ile Thr Leu Pro Arg Phe  
 1 5 10 15

Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala  
20 25 30

Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile  
35 40 45

Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His  
50 55 60

Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met  
65 70 75 80

Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys  
85 90 95

Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala His Val Glu Cys Leu  
100 105 110

Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro  
115 120 125

Leu Arg Tyr Asn Ile Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala  
130 135 140

Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val  
145 150 155 160

Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe  
165 170 175

Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp Leu  
180 185 190

Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Ile Leu Val Gly Pro  
195 200 205

Leu Cys Leu Val Leu Val Ser Tyr Leu Arg Ile Leu Ala Ala Ile Leu  
210 215 220

Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser  
225 230 235 240

Ser His Leu Cys Val Val Gly Leu Phe Phe Gly Ser Ala Ile Val Thr  
245 250 255

Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val Leu  
260 265 270

Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu Ile Tyr  
275 280 285

Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Arg Arg Ala Leu Arg  
290 295 300

Lys Glu Arg Leu Thr  
305

<210> 472

<211> 930



<212> DNA  
<213> Homo sapiens

<400> 472  
atggaaggca acaagacatg gatcacagac atcaccttgc cgcgattcca ggttggtcca 60  
gcaactggaga ttctcctctg tggacttttc tctgccttct atacactcac cctgctgggg 120  
aatggggtca tctttgggat tatctgcctg gactgtaagc ttcacacacc catgtacttc 180  
ttcctctcac acctggccat tgttgacata tcctatgctt ccaactatgt cccaagatg 240  
ctgacgaatc ttatgaacca ggaaagcacc atctcctttt ttccatgcat aatgcagaca 300  
ttcttgattt tggcttttgc tcacgtagag tgtctgattt tgggtggtgat gtcctatgat 360  
cgctatgcgg acatctgcca ccccttacgt tacaatatcc tcatgagctg gagagtgtgc 420  
actgtcctgg ctgtggcttc ctgggtgttc agcttcctcc tggctctggt ccctttagtt 480  
ctcatcctga ggctgccctt ctgcgggcct catgaaatca accacttctg tgaaatcctg 540  
tctgtcctca agttggcctg tgctgacacc tggctcaacc aggtggtcat ctttgcagcc 600  
tgctgtttca tcctgggtggg gccactctgc ctggtgctgg tctcctactt gcgcctcctg 660  
gccgccatct tgaggatcca gtctggggag ggccgcagaa aggccttctc cacctgctcc 720  
tcccaccttt gcgtgggtggg actcttcttt ggcagcgcca ttgtcacgta catggccccc 780  
aagtcccgcc atcctgagga gcagcagaaa gttctttccc tgttttacag ccttttcaat 840  
ccaatgctga accccctgat atatagccta aggaatgcag aggtcaaggg cgccctgagg 900  
agggcactga ggaaggagag gctgacgtga 930

<210> 473  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 473  
Met Arg Leu Ala Asn Gln Thr Leu Gly Gly Asp Phe Phe Leu Leu Gly  
1 5 10 15  
Ile Phe Ser Gln Ile Ser His Pro Gly Arg Leu Cys Leu Leu Ile Phe  
20 25 30  
Ser Ile Phe Leu Met Ala Val Ser Trp Asn Ile Thr Leu Ile Leu Leu  
35 40 45  
Ile His Ile Asp Ser Ser Leu His Thr Pro Met Tyr Phe Phe Ile Asn  
50 55 60  
Gln Leu Ser Leu Ile Asp Leu Thr Tyr Ile Ser Val Thr Val Pro Lys  
65 70 75 80  
Met Leu Val Asn Gln Leu Ala Lys Asp Lys Thr Ile Ser Val Leu Gly  
85 90 95  
Cys Gly Thr Gln Met Tyr Phe Tyr Leu Gln Leu Gly Gly Ala Glu Cys  
100 105 110  
Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125  
Pro Leu Arg Tyr Ser Val Leu Met Ser His Arg Val Cys Leu Leu Leu  
130 135 140  
Ala Ser Gly Cys Trp Phe Val Gly Ser Val Asp Gly Phe Met Leu Thr  
145 150 155 160  
Pro Ile Ala Met Ser Phe Pro Phe Cys Arg Ser His Glu Ile Gln His  
165 170 175

Phe Phe Cys Glu Val Pro Ala Val Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Ser Leu Tyr Lys Ile Phe Met Tyr Leu Cys Cys Val Ile Met Leu Leu  
 195 200 205  
 Ile Pro Val Thr Val Ile Ser Val Ser Tyr Tyr Tyr Ile Ile Leu Thr  
 210 215 220  
 Ile His Lys Met Asn Ser Val Glu Gly Arg Lys Lys Ala Phe Thr Thr  
 225 230 235 240  
 Cys Ser Ser His Ile Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Ile  
 245 250 255  
 Tyr Asn Tyr Met Leu Pro Ser Ser Tyr Gln Thr Pro Glu Lys Asp Met  
 260 265 270  
 Met Ser Ser Phe Phe Tyr Thr Ile Leu Thr Pro Val Leu Asn Pro Ile  
 275 280 285  
 Ile Tyr Ser Phe Arg Asn Lys Asp Val Thr Arg Ala Leu Lys Lys Met  
 290 295 300  
 Leu Ser Val Gln Lys Pro Pro Tyr  
 305 310

<210> 474  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 474  
 atgcggctgg ccaaccagac cctgggtggt gactttttcc tgttgggaat cttcagccag 60  
 atctcacacc ctggccgcct ctgcttgctt atcttcagta tatttttgat ggctgtgtct 120  
 tggaatatta cattgatact tctgatccac attgactcct ctctgcatac tcccatgtac 180  
 ttctttataa accagctctc actcatagac ttgacatata tttctgtcac tgtcccaaaa 240  
 atgctggtga accagctggc caaagacaag accatctcgg tccttgggtg tggcaccag 300  
 atgtacttct acctgcagtt gggagggtgca gagtgtgccc ttctagccgc catggcctat 360  
 gaccgctatg tggctatctg ccactctctc cgttactctg tgctcatgag ccatagggta 420  
 tgtctcctcc tggcatcagg ctgctgggtt gtgggctcag tggatggctt catgtctact 480  
 cccatcgcca tgagcttccc cttctgcaga tcccatgaga ttcagcactt cttctgtgag 540  
 gtccctgctg ttttgaagct ctcttgctca gacacctcac tttacaagat tttcatgtac 600  
 ttgtgctgtg tcatcatgct cctgatacct gtgacgggta tttcagtgtc ttactactat 660  
 atcatcctca ccatccataa gatgaactca gttgaggggc ggaaaaaggc cttcaccacc 720  
 tgctcctccc acattacagt ggtcagcctc ttctatggag ctgctattta caactacatg 780  
 ctccccagct cctaccaaac tcctgagaaa gatatgatgt catccttttt ctacactatc 840  
 cttacacctg tcttgaatcc tatcatttac agtttcagga ataaggatgt cacaagggct 900  
 ttgaaaaaaa tgctgagcgt gcagaaacct ccatattaa 939

<210> 475  
 <211> 331  
 <212> PRT  
 <213> Homo sapiens

<400> 475  
 Met Thr Phe Phe Ser Ser Gly Gly Asn Cys Glu Pro Val Met Cys Ser  
 1 5 10 15

Gly	Asn	Gln	Thr	Ser	Gln	Asn	Gln	Thr	Ala	Ser	Thr	Asp	Phe	Thr	Leu	
		20						25					30			
Thr	Gly	Leu	Phe	Ala	Glu	Ser	Lys	His	Ala	Ala	Leu	Leu	Tyr	Thr	Val	
		35					40					45				
Thr	Phe	Leu	Leu	Phe	Leu	Met	Ala	Leu	Thr	Gly	Asn	Ala	Leu	Leu	Ile	
	50					55					60					
Leu	Leu	Ile	His	Ser	Glu	Pro	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	
	65				70					75					80	
Ile	Ser	Gln	Leu	Ala	Leu	Met	Asp	Leu	Met	Tyr	Leu	Cys	Val	Thr	Val	
				85					90					95		
Pro	Lys	Met	Leu	Val	Gly	Gln	Val	Thr	Gly	Asp	Asp	Thr	Ile	Ser	Pro	
			100					105					110			
Ser	Gly	Cys	Gly	Ile	Gln	Met	Phe	Phe	His	Leu	Thr	Leu	Ala	Gly	Ala	
		115					120					125				
Glu	Val	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Val	
	130					135					140					
Cys	Arg	Pro	Leu	His	Tyr	Pro	Leu	Leu	Met	Asn	Gln	Arg	Val	Cys	Gln	
	145				150					155					160	
Leu	Leu	Val	Ser	Ala	Cys	Trp	Val	Leu	Gly	Met	Val	Asp	Gly	Leu	Leu	
				165					170					175		
Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Gln	Ser	Arg	Lys	Ile	
			180					185						190		
Leu	Ser	Phe	Phe	Cys	Glu	Thr	Pro	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	
		195					200					205				
Asp	Val	Ser	Leu	Tyr	Lys	Met	Leu	Thr	Tyr	Leu	Cys	Cys	Ile	Leu	Met	
	210					215					220					
Leu	Leu	Thr	Pro	Ile	Met	Val	Ile	Ser	Ser	Ser	Tyr	Thr	Leu	Ile	Leu	
	225				230					235					240	
His	Leu	Ile	His	Arg	Met	Asn	Ser	Ala	Ala	Gly	Arg	Arg	Lys	Ala	Leu	
				245					250					255		
Ala	Thr	Cys	Ser	Ser	His	Met	Ile	Ile	Val	Leu	Leu	Leu	Phe	Gly	Ala	
			260					265					270			
Ser	Phe	Tyr	Thr	Tyr	Met	Leu	Arg	Ser	Ser	Tyr	His	Thr	Ala	Glu	Gln	
		275					280					285				
Asp	Met	Met	Val	Ser	Ala	Phe	Tyr	Thr	Ile	Phe	Thr	Pro	Val	Leu	Asn	
	290					295					300					
Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Thr	Arg	Ala	Leu	Arg	
	305				310					315					320	
Ser	Met	Met	Gln	Ser	Arg	Met	Asn	Gln	Glu	Lys						
				325					330							

<210> 476  
<211> 996  
<212> DNA  
<213> Homo sapiens

<400> 476  
atgactttttt tttcctcagg gggaaactgt gagccagtca tgtgctcagg gaatcagact 60  
tctcagaatc aaacagcaag cactgatttc accctcacgg gactctttgc tgagagcaag 120  
catgctgccc tcctctacac cgtgaccttc cttcttttct tgatggccct cactgggaat 180  
gccctcctca tcctcctcat ccactcagag ccccgctcc acacccccat gtacttcttc 240  
atcagccagc tcgcgctcat ggatctcatg tacctatgcg tgactgtgcc caagatgctt 300  
gtggggccagg tcaactggaga tgataccatt tccccgctag gctgtgggat ccagatgttc 360  
ttccacctga ccttggtgg agctgagggt tctctcctgg ctgccatggc ctatgaccga 420  
tatgctgctg tttgcagacc tctccattac ccactgctga tgaaccagag ggtgtgccag 480  
ctcctggtgt cagcctgctg ggttttgga atggttgatg gtttgttgct caccctcatt 540  
accatgagct tccccctttg ccagtctagg aaaatcctga gttttttctg tgagactcct 600  
gccctgctga agctctcctg ctctgacgtc tccctctata agatgctcac gtacctgtgc 660  
tgcacctca tgcctctcac ccccatcatg gtcactcca gctcatacac cctcatcctg 720  
catctcatcc acaggatgaa ttctgccgcc ggccgcagga aggccttggc cacctgctcc 780  
tcccacatga tcatagtgt gctgctcttc ggtgcttct tctacaccta catgctccg 840  
agttcctacc acacagctga gcaggacatg atggtgtctg ccttttacac catcttcact 900  
cctgtgctga acccctcat ttacagtctc cgcaacaaag atgtcaccag ggctctgagg 960  
agcatgatgc agtcaagaat gaaccaagaa aagtag 996

<210> 477  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 477  
Met Thr Asn Thr Ser Ser Ser Asp Phe Thr Leu Leu Gly Leu Leu Val  
1 5 10 15  
Asn Ser Glu Ala Ala Gly Ile Val Phe Thr Val Ile Leu Ala Val Phe  
20 25 30  
Leu Gly Ala Val Thr Ala Asn Leu Val Met Ile Phe Leu Ile Gln Val  
35 40 45  
Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser  
50 55 60  
Ile Met Asp Thr Leu Phe Ile Cys Thr Thr Val Pro Lys Leu Leu Ala  
65 70 75 80  
Asp Met Val Ser Lys Glu Lys Ile Ile Ser Phe Val Ala Cys Gly Ile  
85 90 95  
Gln Ile Phe Leu Tyr Leu Thr Met Ile Gly Ser Glu Phe Phe Leu Leu  
100 105 110  
Gly Leu Met Ala Tyr Asp Cys Tyr Val Ala Val Cys Asn Pro Leu Arg  
115 120 125  
Tyr Pro Val Leu Met Asn Arg Lys Lys Cys Leu Leu Leu Ala Ala Gly  
130 135 140  
Ala Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro Ile Thr  
145 150 155 160

Met Asn Val Pro Tyr Cys Gly Ser Arg Ser Ile Asn His Phe Phe Cys  
165 170 175

Glu Ile Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ser Leu Tyr  
180 185 190

Glu Thr Leu Met Tyr Ile Cys Cys Val Leu Met Leu Leu Ile Pro Ile  
195 200 205

Ser Ile Ile Ser Thr Ser Tyr Ser Leu Ile Leu Leu Thr Ile His Arg  
210 215 220

Met Pro Ser Ala Glu Gly Arg Lys Lys Ala Phe Thr Thr Cys Ser Ser  
225 230 235 240

His Leu Thr Val Val Ser Ile Phe Tyr Gly Ala Ala Phe Tyr Thr Tyr  
245 250 255

Val Leu Pro Gln Ser Phe His Thr Pro Glu Gln Asp Lys Val Val Ser  
260 265 270

Ala Phe Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Ser  
275 280 285

Leu Arg Asn Lys Asp Val Ile Gly Ala Phe Lys Lys Val Phe Ala Cys  
290 295 300

Cys Ser Ser Ala Gln Lys Val Ala Thr Ser Asp Ala  
305 310 315

<210> 478  
<211> 951  
<212> DNA  
<213> Homo sapiens

<400> 478  
atgacgaaca catcatcctc tgacttcacc ctccctggggc ttctggtgaa cagtgaggct 60  
gccgggattg tatttacagt gatccttget gttttcttgg gggccgtgac tgcaaatttg 120  
gtcatgatat tcttgattca ggtggactct cgcctccaca ccccatgta ctttctgctc 180  
agtcagctgt ccatcatgga cacccttttc atctgtacca ctgtcccaa actcctggca 240  
gacatggttt ctaaagagaa gatcatttcc tttgtggcct gtggcatcca gatcttctc 300  
tacctgacca tgattgggtc tgagttcttc ctccctgggc tcatggccta tgactgctac 360  
gtggctgtct gtaaccctct gagataccca gtccctgatga accgcaagaa gtgtcttttg 420  
ctggctgctg gtgcctgggt tgggggctcc ctccgatggc ttctgctcac tcccatcacc 480  
atgaatgtcc cttactgtgg ctcccgaagt atcaaccatt ttttctgtga gatcccagca 540  
gttctgaaac tggcctgtgc agacacgtcc ttgtatgaaa ctctgatgta catctgctgt 600  
gtcctcatgt tgctcatccc catctctatc atctccactt cctactccct catcttggtta 660  
accatccacc gcatgccttc tgctgaaggc cgcaaaaagg ccttcaccac ttgttcctcc 720  
cacttgactg tagtttagcat cttctatggg gctgccttct acacatacgt gctgccccag 780  
tccttcacac ccccgagca ggacaaagta gtgtcagcct tctataccat tgtcacgcc 840  
atgcttaatc ctctcatcta cagcctcaga aacaaggacg tcataggggc atttaaaaag 900  
gtatttgcac gttgctcatc tgctcagaaa gtagcaacaa gtgatgctta g 951

<210> 479  
<211> 317  
<212> PRT  
<213> Homo sapiens

<400> 479

Met	Glu	Gln	Ser	Asn	Tyr	Ser	Val	Tyr	Ala	Asp	Phe	Ile	Leu	Leu	Gly	1	5	10	15
Leu	Phe	Ser	Asn	Ala	Arg	Phe	Pro	Trp	Leu	Leu	Phe	Ala	Leu	Ile	Leu	20	25	30	
Leu	Val	Phe	Leu	Thr	Ser	Ile	Ala	Ser	Asn	Val	Val	Lys	Ile	Ile	Leu	35	40	45	
Ile	His	Ile	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Ser	50	55	60	
Gln	Leu	Ser	Leu	Arg	Asp	Ile	Leu	Tyr	Ile	Ser	Thr	Ile	Val	Pro	Lys	65	70	75	80
Met	Leu	Val	Asp	Gln	Val	Met	Ser	Gln	Arg	Ala	Ile	Ser	Phe	Ala	Gly	85	90	95	
Cys	Thr	Ala	Gln	His	Phe	Leu	Tyr	Leu	Thr	Leu	Ala	Gly	Ala	Glu	Phe	100	105	110	
Phe	Leu	Leu	Gly	Leu	Met	Ser	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	115	120	125	
Pro	Leu	His	Tyr	Pro	Val	Leu	Met	Ser	Arg	Lys	Ile	Cys	Trp	Leu	Ile	130	135	140	
Val	Ala	Ala	Ala	Trp	Leu	Gly	Gly	Ser	Ile	Asp	Gly	Phe	Leu	Leu	Thr	145	150	155	160
Pro	Val	Thr	Met	Gln	Phe	Pro	Phe	Cys	Ala	Ser	Arg	Glu	Ile	Asn	His	165	170	175	
Phe	Phe	Cys	Glu	Val	Pro	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Thr	Asp	Thr	180	185	190	
Ser	Ala	Tyr	Glu	Thr	Ala	Met	Tyr	Val	Cys	Cys	Ile	Met	Met	Leu	Leu	195	200	205	
Ile	Pro	Phe	Ser	Val	Ile	Ser	Gly	Ser	Tyr	Thr	Arg	Ile	Leu	Ile	Thr	210	215	220	
Val	Tyr	Arg	Met	Ser	Glu	Ala	Glu	Gly	Arg	Gly	Lys	Ala	Val	Ala	Thr	225	230	235	240
Cys	Ser	Ser	His	Met	Val	Val	Val	Ser	Leu	Phe	Tyr	Gly	Ala	Ala	Met	245	250	255	
Tyr	Thr	Tyr	Val	Leu	Pro	His	Ser	Tyr	His	Thr	Pro	Glu	Gln	Asp	Lys	260	265	270	
Ala	Val	Ser	Ala	Phe	Tyr	Thr	Ile	Leu	Thr	Pro	Met	Leu	Asn	Pro	Leu	275	280	285	
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Thr	Gly	Ala	Leu	Gln	Lys	Val	290	295	300	
Val	Gly	Arg	Cys	Val	Ser	Ser	Gly	Lys	Val	Thr	Thr	Phe	305	310	315				

<210> 480  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 480  
 atggagcaga gcaattattc cgtgtatgcc gactttatcc ttctggggtt gttcagcaac 60  
 gcccgtttcc cctggcttct ctttgccctc attctcctgg tctttttgac ctccatagcc 120  
 agcaacgtgg tcaagatcat tctcatccac atagactccc gcctccacac ccccatgtac 180  
 ttctgtctca gccagctctc cctcagggac atcctgtata ttccaccat tgtgccc aaa 240  
 atgctggctg accaggtgat gagccagaga gccatttctt ttgctggatg cactgccc aa 300  
 cacttctctt acttgacctt agcaggggct gagttcttcc tcctaggact catgtcctat 360  
 gatcgctacg tagccatctg caaccctctg cactatcctg tcctcatgag ccgcaagatc 420  
 tgctgggtga ttgtggcggc agcctggctg ggaggggtcta tcgatgggtt cttgctcacc 480  
 cccgtcacca tgcagttccc cttctgtgcc tctcgggaga tcaaccactt cttctgcgag 540  
 gtgcctgccc ttctgaagct ctctgcacg gacacatcag cctacgagac agccatgtat 600  
 gtctgtctga ttatgatgct cctcatccct ttctctgtca tctcgggctc ttacacaaga 660  
 attctcatta ctgtttatag gatgagcgag gcagagggga ggggaaaggc tgtggccacc 720  
 tgctcctcac acatgggtgt tgtcagcctc ttctatgggg ctgccatgta cacatacgtg 780  
 ctgcctcatt cttaccacac ccctgagcag gacaaagctg tatctgcctt ctacaccatc 840  
 cttactccca tgctcaatcc actcatttac agccttagga acaaggatgt cacagggggc 900  
 ctacagaagg ttgtggggag gtgtgtgtcc tcaggaaagg taaccacttt ctaa 954

<210> 481  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 481  
 Met Gly Gly Lys Gln Pro Trp Val Thr Glu Phe Ile Leu Val Gly Phe  
 1 5 10 15  
 Gln Val Gly Pro Ala Leu Ala Ile Leu Leu Cys Gly Leu Phe Ser Val  
 20 25 30  
 Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile  
 35 40 45  
 Cys Leu Asp Ser Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His  
 50 55 60  
 Leu Ala Ile Ile Asp Met Ser Tyr Ala Ser Asn Asn Val Pro Lys Met  
 65 70 75 80  
 Leu Ala Asn Leu Met Asn Gln Lys Ser Thr Ile Ser Phe Val Pro Cys  
 85 90 95  
 Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala Val Thr Glu Cys Leu  
 100 105 110  
 Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His Pro  
 115 120 125  
 Phe Gln Tyr Thr Val Ile Met Ser Trp Arg Val Cys Thr Ile Leu Ala  
 130 135 140  
 Ser Thr Cys Trp Ile Ile Ser Phe Leu Met Ala Leu Val His Ile Thr  
 145 150 155 160  
 His Ile Leu Arg Pro Pro Phe Cys Gly Pro Gln Lys Ile Asn His Phe

165	170	175
Ile Cys Gln Ile Met Ser Val Phe Lys Leu Ala Cys Ala Gly Pro Arg		
180	185	190
Leu Asn Gln Val Val Leu Tyr Ala Gly Ser Ala Phe Ile Val Glu Gly		
195	200	205
Pro Leu Cys Leu Glu Leu Val Ser Asn Leu His Ile Leu Ser Arg His		
210	215	220
Leu Glu Asp Pro Val Met Gly Arg Ala Ala Asp Arg Leu Thr Leu Pro		
225	230	235
Ala Pro Ser His Leu Cys Met Val Gly Leu Leu Phe Gly Ser Thr Met		
245	250	255
Val Met Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys		
260	265	270
Val Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Lys Arg Val		
290	295	300
Leu Trp Lys Gln Arg Ser Lys		
305	310	

<210> 482  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<400> 482  
 atgggaggca agcagccctg ggtcacagaa ttcacacctg tgggattcca gggtgggtcca 60  
 gcactggcga ttctcctctg tggactcttc tctgtcttct atacactcac cctgctgggg 120  
 aatgggggtca tctttgggat tatctgcctg gactctaagc ttcacacacc catgtacttc 180  
 ttctctcac acctggccat cattgacatg tcctatgctt ccaacaatgt tcccaagatg 240  
 ttggcaaacc taatgaacca gaaaagcacc atctcctttg ttccatgcat aatgcagact 300  
 tttttgtatt tggcttttgc tggtacagag tgccctgattt tgggtggatgat gtcctatgat 360  
 aggtatgtgg ccatctgccca ccttttccag tacactgtca tcatgagctg gagagtgtgc 420  
 acgatcctgg cctcaacatg ctggataatt agctttctca tggctctggg ccatataact 480  
 catattctga ggccgccttt ttgtggccca caaaagatca accactttat ctgtcaaatac 540  
 atgtccgtat tcaaattggc ctgtgctggc cctaggctca accagggtgg cctatatgag 600  
 ggttctgctg tcatcgtaga ggggcccgtc tgccctggagc tgggtctccaa cttgcacatc 660  
 ctgtcgcgcc atcttgagga tccagtaatg gggagggccg cagaccgact tactcttctc 720  
 gctccttccc acctttgcat ggtgggactc ctttttggca gcaccatggg catgtacatg 780  
 gcccacaagt cccgccacc tgaggagcag cagaagggtc tttccctgtt ttacagcctt 840  
 ttcaaccgga tgctgaaccc cttgatctac agcctgagga acgcagaggt caagggtgcc 900  
 ctgaaaagag tggtgtggaa acagagatca aagtga 936

<210> 483  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 483  
 Met Glu Ser Asn Gln Thr Trp Ile Thr Glu Val Ile Leu Leu Gly Phe



1	5	10	15
Gln Val Asp	Pro Ala Leu Glu Leu	Phe Leu Phe Gly Phe	Phe Leu Leu
	20	25	30
Phe Tyr Ser	Leu Thr Leu Met	Gly Asn Gly Ile Ile	Leu Gly Leu Ile
	35	40	45
Tyr Leu Asp	Ser Arg Leu His	Thr Pro Met Tyr Val	Phe Leu Ser His
	50	55	60
Leu Ala Ile	Val Asp Met Ser Tyr Ala	Ser Ser Thr Val Pro	Lys Met
	65	70	75
Leu Ala Asn	Leu Val Met His Lys Lys	Val Ile Ser Phe Ala	Pro Cys
	85	90	95
Ile Leu Gln	Thr Phe Leu Tyr Leu Ala	Phe Ala Ile Thr Glu	Cys Leu
	100	105	110
Ile Leu Val	Met Met Cys Tyr Asp Arg	Tyr Val Ala Ile Cys	His Pro
	115	120	125
Leu Gln Tyr	Thr Leu Ile Met Asn Trp	Arg Val Cys Thr Val	Leu Ala
	130	135	140
Ser Thr Cys	Trp Ile Phe Ser Phe Leu	Leu Ala Leu Val His	Ile Thr
	145	150	155
Leu Ile Leu	Arg Leu Pro Phe Cys Gly	Pro Gln Lys Ile Asn	His Phe
	165	170	175
Phe Cys Gln	Ile Met Ser Val Phe Lys	Leu Ala Cys Ala Asp	Thr Arg
	180	185	190
Leu Asn Gln	Val Val Leu Phe Ala Gly	Ser Ala Phe Ile Leu	Val Gly
	195	200	205
Pro Leu Cys	Leu Val Leu Val Ser Tyr	Leu His Ile Leu Val	Ala Ile
	210	215	220
Leu Arg Ile	Gln Ser Gly Glu Gly Arg	Arg Lys Ala Phe Ser	Thr Cys
	225	230	235
Ser Ser His	Leu Cys Val Val Gly Leu	Phe Phe Gly Ser Ala	Ile Val
	245	250	255
Met Tyr Met	Ala Pro Lys Ser Ser His	Ser Gln Glu Arg Arg	Lys Ile
	260	265	270
Leu Ser Leu	Phe Tyr Ser Leu Phe Asn	Pro Ile Leu Asn Pro	Leu Ile
	275	280	285
Tyr Ser Leu	Arg Asn Ala Glu Val Lys	Gly Ala Leu Lys Arg	Val Leu
	290	295	300
Trp Lys Gln	Arg Ser Met		
	305	310	

<211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 484  
 atggaaagca atcagacctg gatcacagaa gtcacacctg tgggattcca ggtggaccca 60  
 gctctggagt tgttctctct tgggtttttc ttgctattct acagcttaac cctgatggga 120  
 aatgggatta tcctggggct catctacttg gactctagac tgcacacacc catgtatgtc 180  
 ttctgtcac acctggccat tgtggacatg tcctatgcct cgagtactgt ccctaagatg 240  
 ctagcaaadc ttgtgatgca caaaaaagtc atctcctttg ctcccttgcac acttcagact 300  
 tttttgtatt tggcggtttgc tattacagag tgtctgattt tgggtgatgat gtgctatgat 360  
 cggtagtggt caatctgtca ccccttgcaa tacacctca ttatgaactg gagagtgtgc 420  
 actgtcctgg cctcaacttg ctggatattt agctttctct tggctctggg ccatattact 480  
 cttattctga ggctgccttt ttgtggccca caaaagatca accacttttt ctgtcaaadc 540  
 atgtccgtat tcaaattggc ctgtgctgac actaggctca accaggtggg cctatttgcg 600  
 ggttctgcgt tcatcttagt ggggcccgtc tgccctgggc tgggtctcta cttgcacatc 660  
 ctggtggcca tcttgaggat ccagtctggg gagggccgca gaaaggcctt ctctacctgc 720  
 tcctcccacc tctgcgtggg ggggcttttc tttggcagcg ccattgtcat gtacatggcc 780  
 cccaagtcaa gccattctca agaacggagg aagatccttt ccctgtttta cagccttttc 840  
 aacccgatcc tgaacccct catctacagc cttaggaatg cagaggtgaa aggggctcta 900  
 aagagagtcc tttggaaaca gagatcaatg tga 933

<210> 485  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 485  
 Met Gly Asp Asn Gln Ser Arg Val Thr Glu Phe Ile Leu Val Gly Phe  
 1 5 10 15  
 Gln Leu Ser Val Glu Met Glu Val Leu Leu Phe Trp Ile Phe Ser Leu  
 20 25 30  
 Leu Tyr Leu Phe Ser Leu Leu Ala Asn Gly Met Ile Leu Gly Leu Ile  
 35 40 45  
 Cys Leu Asp Pro Arg Leu Arg Thr Pro Met Tyr Phe Phe Leu Ser His  
 50 55 60  
 Leu Ala Val Ile Asp Ile Tyr Tyr Ala Ser Ser Asn Leu Leu Asn Met  
 65 70 75 80  
 Leu Glu Asn Leu Val Lys His Lys Lys Thr Ile Ser Phe Ile Ser Cys  
 85 90 95  
 Ile Met Gln Met Ala Leu Tyr Leu Thr Phe Ala Ala Ala Val Cys Met  
 100 105 110  
 Ile Leu Val Val Met Ser Tyr Asp Arg Phe Val Ala Ile Cys His Pro  
 115 120 125  
 Leu His Tyr Thr Val Ile Met Asn Trp Arg Val Cys Thr Val Leu Ala  
 130 135 140  
 Ile Thr Ser Trp Ala Cys Gly Phe Ser Leu Ala Leu Ile Asn Leu Ile  
 145 150 155 160  
 Leu Leu Leu Arg Leu Pro Phe Cys Gly Pro Gln Glu Val Asn His Phe  
 165 170 175

Phe Gly Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp  
 180 185 190  
 Ile Asn Glu Ile Phe Val Phe Ala Gly Gly Val Phe Val Leu Val Gly  
 195 200 205  
 Pro Leu Ser Leu Met Leu Ile Ser Tyr Met Arg Ile Leu Leu Ala Ile  
 210 215 220  
 Leu Lys Ile Gln Ser Lys Glu Gly Arg Lys Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 Ser Ser His Leu Cys Val Val Gly Leu Tyr Phe Gly Met Ala Met Val  
 245 250 255  
 Val Tyr Leu Val Pro Asp Asn Ser Gln Arg Gln Lys Gln Gln Lys Ile  
 260 265 270  
 Leu Thr Leu Phe Tyr Ser Leu Phe Asn Pro Leu Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Ala Gln Val Lys Gly Ala Leu Tyr Arg Ala Leu  
 290 295 300  
 Gln Lys Lys Arg Thr Met  
 305 310

<210> 486  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 486  
 atgggggaca accaatcacg gggtcacagaa ttcattcctgg ttggattcca gctcagtgtg 60  
 gagatggaag tgctcctctt ctggatcttc tccctgttat atctcttcag cctgctggca 120  
 aatggcatga tcttggggct catctgtctg gatcccagac tgcgcacccc catgtacttc 180  
 ttcctgtcac acttggccgt cattgacata tactatgctt ccagcaattt gctcaacatg 240  
 ctggaaaacc tagtgaaaca caaaaaaact atctcgttca tctcttgcat tatgcagatg 300  
 gctttgtatt tgacttttgc tgctgcagtg tgcattgatt tgggtggtgat gtcctatgac 360  
 agatttgggg cgatctgcca tcccctgcat tacactgtca tcatgaactg gagagtgtgc 420  
 acagtactgg ctattacttc ctgggcatgt ggattttccc tggccctcat aaatctaatt 480  
 ctctttctaa ggctgccctt ctgtgggccc caggaggtga accacttctt cggtgaaatt 540  
 ctgtctgtcc tcaaactggc ctgtgcagac acctggatta atgaaatttt tgtctttgct 600  
 ggtggtgtgt ttgtcttagt cgggcccctt tccttgatgc tgatctccta catgcgcata 660  
 ctcttggcca tcttgaagat ccagtcaaag gagggccgca aaaaagcctt ttccacctgc 720  
 tcctcccacc tctgtgtggt tgggctttac tttggcatgg ccatggtggt ttacctgggc 780  
 ccagacaaca gtcaacgaca gaagcagcag aaaattctca ccctgtttta cagccttttc 840  
 aaccatttgc tgaaccccct catctacagc ctgcggaatg ctcaagtga ggggtgcctta 900  
 tacagagcac tgcagaaaaa gaggaccatg tga 933

<210> 487  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 487  
 Met Pro Ser Ile Asn Asp Thr His Phe Tyr Pro Pro Phe Phe Leu Leu  
 1 5 10 15

Leu Gly Ile Pro Gly Leu Asp Thr Leu His Ile Trp Ile Ser Phe Pro  
                   20                                  25                                  30  
 Phe Cys Ile Val Tyr Leu Ile Ala Ile Val Gly Asn Met Thr Ile Leu  
                   35                                  40                                  45  
 Phe Val Ile Lys Thr Glu His Ser Leu His Gln Pro Met Phe Tyr Phe  
                   50                                  55                                  60  
 Leu Ala Met Leu Ser Met Ile Asp Leu Gly Leu Ser Thr Ser Thr Ile  
                   65                                  70                                  75                                  80  
 Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gln Glu Ile Ser Phe  
                                   85                                  90                                  95  
 Gly Gly Cys Leu Leu Gln Met Phe Phe Ile His Met Phe Thr Gly Met  
                   100                                  105                                  110  
 Glu Thr Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile  
                   115                                  120                                  125  
 Cys Asn Pro Leu Gln Tyr Thr Met Ile Leu Thr Asn Lys Thr Ile Ser  
                   130                                  135                                  140  
 Ile Leu Ala Ser Val Val Val Gly Arg Asn Leu Val Leu Val Thr Pro  
                   145                                  150                                  155                                  160  
 Phe Val Phe Leu Ile Leu Arg Leu Pro Phe Cys Gly His Asn Ile Val  
                                   165                                  170                                  175  
 Pro His Thr Tyr Cys Glu His Arg Gly Leu Ala Gly Leu Ala Cys Ala  
                   180                                  185                                  190  
 Pro Ile Lys Ile Asn Ile Ile Tyr Gly Leu Met Val Ile Ser Tyr Ile  
                   195                                  200                                  205  
 Ile Val Asp Val Ile Leu Ile Ala Ser Ser Tyr Val Leu Ile Leu Arg  
                   210                                  215                                  220  
 Ala Val Phe Arg Leu Pro Ser Gln Asp Val Arg Leu Lys Ala Phe Asn  
                   225                                  230                                  235                                  240  
 Thr Cys Gly Ser His Val Cys Val Met Leu Cys Phe Tyr Thr Pro Ala  
                                   245                                  250                                  255  
 Phe Phe Ser Phe Met Thr His Arg Phe Gly Gln Asn Ile Pro His Tyr  
                   260                                  265                                  270  
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu  
                   275                                  280                                  285  
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Gln Ile  
                   290                                  295                                  300  
 Val Lys Ile Phe Val Gln Lys Glu  
                   305                                  310

<210> 488

<211> 939

<212> DNA  
<213> Homo sapiens

<400> 488  
atgccttcta tcaatgacac ccacttctat ccccccttct tcctcctgct aggaataacca 60  
ggactggaca cttttacatat ctggatttct ttcccattct gtattgtgta cctgattgcc 120  
attgtgggga atatgaccat tctctttgtg atcaaaactg aacatagtct acaccagccc 180  
atgttctact tcctggccat gttgtctatg attgatctgg gtctgtccac atccactatc 240  
cccaaaatgc taggaatctt ctggttcaac ctccaagaga tcagctttgg gggatgcctt 300  
cttcagatgt tctttattca catgtttaca ggcatggaga ctgttctgtt ggtgggtcatg 360  
gcttatgacc gctttgttgc catctgcaac cctctccagt acaccatgat cctcaccaat 420  
aaaacatca gtatcctagc ttctgtgggt gttggaagaa atttagttct tgtaacccca 480  
tttgtgtttc tcattctgcy tctgccattc tgtgggcata acatcgtacc tcacacatac 540  
tgtgagcaca ggggtctggc cgggttgccc tgtgcacca ttaagatcaa cataatctat 600  
gggctcatgg tgatttctta tattattgtg gatgtgatct taattgctc ttcctatgtg 660  
cttatcctta gagctgtttt tgccttccc tctcaagatg tccgactaaa ggccttcaat 720  
acctgtgggt ctcatgtctg tgttatgctg tgcttttaca caccagcatt tttttctttt 780  
atgacacatc gttttggcca aaacattccc cactatatcc atattctttt ggctaacctg 840  
tatgtggttg tcccacctgc ccttaaccct gtcatttatg gagtcaggac caagcagatc 900  
cgagagcaaa ttgtgaaaat atttgtacag aaagaataa 939

<210> 489  
<211> 327  
<212> PRT  
<213> Homo sapiens

<400> 489  
Met Leu His Thr Asn Asn Thr Gln Phe His Pro Ser Thr Phe Leu Val  
1 5 10 15  
Val Gly Val Pro Gly Leu Glu Asp Val His Val Trp Ile Gly Phe Pro  
20 25 30  
Phe Phe Ala Val Tyr Leu Thr Ala Leu Leu Gly Asn Ile Ile Ile Leu  
35 40 45  
Phe Val Ile Gln Thr Glu Gln Ser Leu His Gln Pro Met Phe Tyr Phe  
50 55 60  
Leu Ala Met Leu Ala Gly Thr Asp Leu Gly Leu Ser Thr Ala Thr Ile  
65 70 75 80  
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gly Glu Ile Ala Phe  
85 90 95  
Gly Ala Cys Ile Thr Gln Met Tyr Thr Ile His Ile Cys Thr Gly Leu  
100 105 110  
Glu Ser Val Val Leu Thr Val Thr Gly Ile Asp Arg Tyr Ile Ala Ile  
115 120 125  
Cys Asn Pro Leu Arg Tyr Ser Met Ile Leu Thr Asn Lys Val Ile Ala  
130 135 140  
Ile Leu Gly Ile Val Ile Ile Val Arg Thr Leu Val Phe Val Thr Pro  
145 150 155 160  
Phe Thr Phe Leu Thr Leu Arg Leu Pro Phe Cys Gly Val Arg Ile Ile  
165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala Lys Leu Ala Cys Ala  
 180 185 190  
 Ser Ile Asn Val Ile Tyr Gly Leu Ile Ala Phe Ser Val Gly Tyr Ile  
 195 200 205  
 Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val  
 210 215 220  
 Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe  
 245 250 255  
 Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His  
 260 265 270  
 Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser  
 275 280 285  
 Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg  
 290 295 300  
 Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe  
 305 310 315 320  
 His Asn Asn Ser Val Arg Gln  
 325

<210> 490  
 <211> 984  
 <212> DNA  
 <213> Homo sapiens

<400> 490  
 atgcttcata ccaacaatac acagtttcac ccttccacct tctcgtagtg ggggggtccca 60  
 gggctggaag atgtgcatgt atggattggc ttccccttct ttgcggtgta tctaacagcc 120  
 cttctaggga acatcattat cctgtttgtg atacagactg aacagagcct ccaccaaccc 180  
 atgttttact tcctagccat gttggccggc actgatctgg gcttgtctac agcaaccatc 240  
 cccaagatgc tgggaatttt ctgggtttaat cttggagaga ttgcatttgg tgcttgcac 300  
 acacagatgt ataccattca tatatgcact ggcctggagt ctgtggtact gacagtcacg 360  
 ggcatagatc gctatattgc catctgcaac cccctgagat atagcatgat ccttaccac 420  
 aaggtaatag ccattctggg catagtcac atgttcagga ctttggtatt tgtgactcca 480  
 ttcacatttc tcaccctgag attgcctttc tgtggtgtcc ggattatccc tcatacctat 540  
 tgtgaacaca tgggcttggc aaagttagct tgtgccagta ttaatgttat atatggattg 600  
 attgccttct cagtgggata cattgacatt tctgtgattg gattttccta tgtccagatc 660  
 ctccgagctg tcttccatct cccagcctgg gatgccggc ttaaggcact cagcacatgt 720  
 ggctctcacg tctgtgttat gttggctttc tacctgccag ccctcttttc cttcatgaca 780  
 caccgctttg gccacaacat ccctcattac atccacattc ttctggccaa tctgtatgtg 840  
 gtttttcccc ctgctcttaa ctctgttatc tatggggtca aaacaaaaca gatacgagag 900  
 caggtactta ggatactcaa ccctaaaagc ttttggcatt ttgaccccaa gaggatcttc 960  
 cacaacaatt cagttagaca ataa 984

<210> 491  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 491

Met Lys Asn Lys Thr Val Leu Thr Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15  
Asp Val Pro Glu Leu Gln Val Ala Val Phe Thr Phe Leu Phe Leu Ala  
20 25 30  
Tyr Leu Leu Ser Ile Leu Gly Asn Leu Thr Ile Leu Ile Leu Thr Leu  
35 40 45  
Leu Asp Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe  
50 55 60  
Ser Phe Leu Glu Ile Ser Phe Thr Asn Ile Phe Ile Pro Arg Val Leu  
65 70 75 80  
Ile Ser Ile Thr Thr Gly Asn Lys Ser Ile Ser Phe Ala Gly Cys Phe  
85 90 95  
Thr Gln Tyr Phe Phe Ala Met Phe Leu Gly Ala Thr Glu Phe Tyr Leu  
100 105 110  
Leu Ala Ala Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125  
His Tyr Thr Thr Ile Met Ser Ser Arg Ile Cys Ile Gln Leu Ile Phe  
130 135 140  
Cys Ser Trp Leu Gly Gly Leu Met Ala Ile Ile Pro Thr Ile Thr Leu  
145 150 155 160  
Met Ser Gln Gln Asp Phe Cys Ala Ser Asn Arg Leu Asn His Tyr Phe  
165 170 175  
Cys Asp Tyr Glu Pro Leu Leu Glu Leu Ser Cys Ser Asp Thr Ser Leu  
180 185 190  
Ile Glu Lys Val Val Phe Leu Val Ala Ser Val Thr Leu Val Val Thr  
195 200 205  
Leu Val Leu Val Ile Leu Ser Tyr Ala Phe Ile Ile Lys Thr Ile Leu  
210 215 220  
Lys Leu Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser  
225 230 235 240  
Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met  
245 250 255  
Tyr Ile Asn Pro Ser Ala Lys Glu Gly Asp Thr Phe Asn Lys Gly Val  
260 265 270  
Ala Leu Leu Ile Thr Ser Val Ala Pro Leu Leu Asn Pro Phe Ile Tyr  
275 280 285  
Thr Leu Arg Asn Gln Gln Val Lys Gln Pro Phe Lys Asp Met Val Lys  
290 295 300  
Lys Leu Leu Asn Leu  
305

<210> 492  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 492  
 atgaaaaata aaaccgtggt aactgagttt atccttctgg gtctaacaga tgtccctgaa 60  
 ctccagggtg cagttttcac ctttcttttc cttgcgtatt tactcagcat ccttggaat 120  
 ctgactatcc tcacctcac cttgctggac tcccaccttc agactcccat gtatttcttt 180  
 ctccggaact tctccttctt ggaaatttcc ttcacaaaca tcttcattcc aagggtcctg 240  
 attagcatca caacaggga caagagtatc agctttgctg gctgcttcac tcagtatttc 300  
 tttgccatgt tccttggggc tacagagttt taccttctgg ctgccatgtc ctatgaccgc 360  
 tatgtggcca tctgcaaacc tctgcattac accaccatca tgagcagcag aatctgcattc 420  
 cagctgattt tctgctcttg gctgggtggg ctaatggcta ttataccaac aatcaccttg 480  
 atgagtcagc aggacttttg tgcattccaac agactgaatc attacttctg tgactatgag 540  
 cctcttctgg aactctcatg ttcagacaca agcctcatag agaagggtgt ctttcttctg 600  
 gcatctgtga ccctgggtgt cactctggtg ctagtgattc tctcctatgc attcattatc 660  
 aagactattc tgaagctccc ctctgccccaa caaaggacaa aagccttttc cacatgttct 720  
 tcccacatga ttgtcatctc cctctcttac ggaagctgca tgtttatgta cattaatccc 780  
 tctgcaaaag aaggggatac attcaacaag ggagtagctc tactcattac ttcagttgct 840  
 cctttgttga acccctttat ttacacccta aggaaccaac aggtaaaaca acccttcaag 900  
 gatattgtca aaaagcttct gaatctttaa 930

<210> 493  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 493  
 Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly  
 1 5 10 15  
 Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe  
 20 25 30  
 Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val  
 35 40 45  
 Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly  
 50 55 60  
 Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln  
 65 70 75 80  
 Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly  
 85 90 95  
 Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys  
 100 105 110  
 Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys  
 115 120 125  
 Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu  
 130 135 140  
 Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr  
 145 150 155 160



Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr  
 165 170 175  
 Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr  
 180 185 190  
 Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp  
 195 200 205  
 Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr  
 210 215 220  
 Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile  
 245 250 255  
 Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg  
 260 265 270  
 Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val  
 275 280 285  
 Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile  
 290 295 300  
 Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile  
 305 310 315

<210> 494  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 494  
 atggaaggaa agaatcaaac agctccatct gaattcatca tcttgggggtt cgaccacctg 60  
 aatgaattgc agtattttact cttcaccatc ttctttctga cctacatatg cacttttagga 120  
 ggcaatggtt ttatcattgt ggtgaccata gctgattccc acctacacac acctatgtat 180  
 tatttcctag gaaatcctgc ccttattgac atctgctaca ctactactaa tgtccccag 240  
 atgatggtgc atcttctgtc agagaagaaa atcatttcct atggaggctg tgtgaccag 300  
 ctctttgcat tcattttctt tgttggtcga gagtgtctcc tcttggcagc aatggcatat 360  
 gatcgatata ttgctatctg taagccgtta aggtactcat ttattatgaa caaggccctg 420  
 tgcagctggt tagcagcctc atgctggaca tgtgggtttc tcaactcagt gttgcacacc 480  
 gttctgacct tccacctgcc cttctgtggt aacaatcaga tcaattattt cttctgtgac 540  
 atacctccct tgctcatctt gtcttgtggt gatacttccc tcaatgaact ggctttgctg 600  
 tccattggga tcttcataag ctggactcct ttctgtgca tcatcctttc ctacctttac 660  
 atcatctcca ccacctgag gatccgttcc tctgagggga ggcacaaagc cttttccacc 720  
 tgtgcctccc acctgctcat tgttattctc tattatggca gtgctatctt cacgtatgtg 780  
 aggcccatct catcttactc tctagagaaa gatagattga tctcagtgtc gtatagtgtt 840  
 gtcacaccca tgctgaatcc tgtaatttat acgctaagga ataaggacat caaaggaggt 900  
 gtgaaggcca tagggagaaa gtggcagcca ccagttttct cttctgatat ataa 954

<210> 495  
 <211> 314  
 <212> PRT  
 <213> Homo sapiens

<400> 495

Met	Ala	Arg	Lys	Asp	Met	Ala	His	Ile	Asn	Cys	Thr	Gln	Ala	Thr	Glu	1	5	10	15
Phe	Ile	Leu	Val	Gly	Leu	Thr	Asp	His	Gln	Glu	Leu	Lys	Met	Pro	Leu	20	25	30	
Phe	Val	Leu	Phe	Leu	Ser	Ile	Tyr	Leu	Phe	Thr	Val	Val	Gly	Asn	Leu	35	40	45	
Gly	Leu	Ile	Leu	Leu	Ile	Arg	Ala	Asp	Thr	Ser	Leu	Asn	Thr	Pro	Met	50	55	60	
Tyr	Phe	Phe	Leu	Ser	Asn	Leu	Ala	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	65	70	75	80
Val	Ile	Thr	Pro	Lys	Met	Leu	Gly	Asn	Phe	Leu	Tyr	Lys	Gln	Asn	Val	85	90	95	
Ile	Ser	Phe	Asp	Ala	Cys	Ala	Thr	Gln	Leu	Gly	Cys	Phe	Leu	Thr	Phe	100	105	110	
Met	Ile	Ser	Glu	Ser	Leu	Leu	Leu	Ala	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	115	120	125	
Val	Ala	Ile	Cys	Asn	Pro	Leu	Leu	Tyr	Met	Val	Val	Met	Thr	Pro	Gly	130	135	140	
Ile	Cys	Ile	Gln	Leu	Val	Ala	Val	Pro	Tyr	Ser	Tyr	Ser	Phe	Leu	Met	145	150	155	160
Ala	Leu	Phe	His	Thr	Ile	Leu	Thr	Phe	Arg	Leu	Ser	Tyr	Cys	His	Ser	165	170	175	
Asn	Ile	Val	Asn	His	Phe	Tyr	Cys	Asp	Asp	Met	Pro	Leu	Leu	Arg	Leu	180	185	190	
Thr	Cys	Ser	Asp	Thr	Arg	Phe	Lys	Gln	Leu	Trp	Ile	Phe	Ala	Cys	Ala	195	200	205	
Gly	Ile	Met	Phe	Ile	Ser	Ser	Leu	Leu	Ile	Val	Phe	Val	Ser	Tyr	Met	210	215	220	
Phe	Ile	Ile	Ser	Ala	Ile	Leu	Arg	Met	His	Ser	Ala	Glu	Gly	Arg	Gln	225	230	235	240
Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	Met	Leu	Ala	Val	Thr	Ile	Phe	245	250	255	
Tyr	Gly	Thr	Leu	Ile	Phe	Met	Tyr	Leu	Gln	Pro	Ser	Ser	Ser	His	Ala	260	265	270	
Leu	Asp	Thr	Asp	Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr	Val	Ile	Ile	Pro	275	280	285	
Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Gln	Asn	Lys	Glu	Val	Lys	Glu	290	295	300	
Ala	Leu	Lys	Lys	Ile	Ile	Ile	Asn	Lys	Asn	305	310								

<210> 496  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<400> 496  
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 ggccctcacag accatcagga gttgaagatg cccctctttg tgctattctt atccatctac 120  
 ctcttcacag tggtaggcaa cttgggtttg atcctactca ttagagcgga tacaagtctc 180  
 aacacaccaa tgtacttctt tcttagcaac ctagcttttg tggatttctg ttactcttct 240  
 gtcattacac ccaaaatgct tgggaatttc ttgtacaaac aaaatgttat atcctttgat 300  
 gcatgtgcta ctcaactggg ctgctttctc accttcatga tatcagaatc cttgctactg 360  
 gcttccatgg cctatgaccg atatgtggcc atttgaacc ctctattgta tatggttgta 420  
 atgactccag gaatctgcat tcaacttgta gcagttcctt atagctatag cttcctaatag 480  
 gcactatttc acaccatcct caccttccgc ctctcctatt gccactccaa cattgtcaac 540  
 catttctatt gtgatgacat gcctctctc aggctaactt gctcagacac tcgcttcaaa 600  
 cagctctgga tctttgcctg tgctgggtatc atgttcattt cctcccttct gattgtcttt 660  
 gtctcctaca tgttcatcat ttctgccatc ctgaggatgc attcagctga gggaagacag 720  
 aagggtttct cgacgtgtgg ctctcacatg ctggcagtca ccatattcta tgggaccctc 780  
 atttttatgt acttacagcc tagctctagc catgccctgg acacagacaa gatggcctct 840  
 gtcttctaca cagtgatcat tcccatgttg aatcccttaa tctatagcct ccagaataag 900  
 gaggtgaaag aagctctgaa gaaaatcatt atcaataaaa actag 945

<210> 497  
 <211> 324  
 <212> PRT  
 <213> Homo sapiens

<400> 497  
 Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly  
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 Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu  
 20 25 30  
 Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu  
 35 40 45  
 Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60  
 His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys  
 65 70 75 80  
 Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala  
 85 90 95  
 Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys  
 100 105 110  
 Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser  
 115 120 125  
 Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu  
 130 135 140  
 Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr  
 145 150 155 160  
 Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His

	165		170		175
Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr					
	180		185		190
His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile					
	195		200		205
Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala					
	210		215		220
Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr					
	225		230		235
Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile					
		245		250	255
Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys					
	260		265		270
Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu					
	275		280		285
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ser Lys Lys Ala					
	290		295		300
Leu Asp Lys Gly Cys Glu Asn Leu Gln Ile Leu Thr Phe Leu Lys Ile					
	305		310		315
					320

Arg Lys Leu Tyr

<210> 498  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 498

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ccagagcttc	aggccccgtg	ctttgggggtg	tttttagtta	tctatctggg	cacagtgtg	120
ggcaatcttg	ggttgattac	tttaatcaag	attgatactc	gactccacac	acctatgtac	180
tatttcctca	gccacctggc	ctttgttgac	ctttgttact	cctctgctat	tacaccgaag	240
atgatggtga	attttgttgt	ggaacgcaac	accattcctt	tccatgcttg	tgcaacccaa	300
ctgggttgtt	ttctcacctt	catgatcact	gagtgtttcc	ttctagcctc	catggcctac	360
gattgctatg	tcgccatctg	tagtccccctg	cattattcaa	cactgatgtc	aagaagagtc	420
tgcattcaac	tggtggcagt	tccatatata	tacagcttcc	tggttgccct	cttcacacc	480
gttatcactt	tccgtctgac	ttactgtggc	ccaaacttaa	ttaaccattt	ctattgtgat	540
gacctccctt	tcttagctct	gtcctgctca	gacacacaca	tgaaggaaat	tctgatattt	600
gcctttgctg	gctttgatat	gatctcttcc	tcttccattg	tcctcacctc	ctacatcttt	660
attattgccg	ctatcctaag	gatccgctct	actcaggggc	aacacaaagc	catttccacc	720
tgtggctccc	atatggtgac	tgtcactatt	ttctatggca	cactgatctt	tatgtacct	780
cagcccaa	caaatcactc	cttggacaca	gacaagatgg	cttctgtatt	ttacacagtg	840
gtgatcccca	tgtaaacc	cctaattctat	agtctaagga	aaaagaagt	gaaagatgcc	900
tcaaagaaag	ccttgataa	aggttgtgaa	aacttacaga	tattaacatt	tttaaaaaata	960
agaaaacttt	attaa					975

<210> 499  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 499

Met Lys Asn Arg Thr Met Phe Gly Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15

Asn Gln Pro Glu Leu Gln Val Met Ile Phe Ile Phe Leu Phe Leu Thr  
20 25 30

Tyr Met Leu Ser Ile Leu Gly Asn Leu Thr Ile Ile Thr Leu Thr Leu  
35 40 45

Leu Asp Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe  
50 55 60

Ser Phe Leu Glu Ile Ser Phe Thr Ser Ile Phe Ile Pro Arg Phe Leu  
65 70 75 80

Thr Ser Met Thr Thr Gly Asn Lys Val Ile Ser Phe Ala Gly Cys Leu  
85 90 95

Thr Gln Tyr Phe Phe Ala Ile Phe Leu Gly Ala Thr Glu Phe Tyr Leu  
100 105 110

Leu Ala Ser Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125

His Tyr Leu Thr Ile Met Ser Ser Arg Val Cys Ile Gln Leu Val Phe  
130 135 140

Cys Ser Trp Leu Gly Gly Phe Leu Ala Ile Leu Pro Pro Ile Ile Leu  
145 150 155 160

Met Thr Gln Val Asp Phe Cys Val Ser Asn Ile Leu Asn His Tyr Tyr  
165 170 175

Cys Asp Tyr Gly Pro Leu Val Glu Leu Ala Cys Ser Asp Thr Ser Leu  
180 185 190

Leu Glu Leu Met Val Ile Leu Leu Ala Val Val Thr Leu Met Val Thr  
195 200 205

Leu Val Leu Val Thr Leu Ser Tyr Thr Tyr Ile Ile Arg Thr Ile Leu  
210 215 220

Arg Ile Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser  
225 230 235 240

Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met  
245 250 255

Tyr Ile Asn Pro Ser Ala Lys Glu Gly Gly Ala Phe Asn Lys Gly Ile  
260 265 270

Ala Val Leu Ile Thr Ser Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr  
275 280 285

Thr Leu Arg Asn Gln Gln Val Lys Gln Ala Phe Lys Asp Ser Val Lys  
290 295 300

Lys Ile Val Lys Leu  
305

<210> 500  
<211> 930  
<212> DNA  
<213> Homo sapiens

<400> 500  
atgaaaaaca gaaccatggt tgggtgagttt attctactgg gccttacaaa tcaacctgaa 60  
ctccaagtga tgatattcat ctttctgttc ctcacctaca tgctaagtat cctaggaaat 120  
ctgactatta tcaccctcac cttactagac cccacacctc agacccccat gtatttcttc 180  
ctccggaatt tctccttctt agaaatttcc ttcacatcca tttttattcc cagatttctg 240  
accagcatga caacaggaaa taaagttatc agctttgctg gctgcttgac tcagtatttt 300  
tttgctatat ttcttgagc taccgagttt tacctcctgg cctccatgtc ttatgatcgt 360  
tatgtggcca tctgcaaacc cttgcattac ctgactatta tgagcagcag agtctgcata 420  
caactagtgt tctgctcctg gttgggggga ttcttagcaa tcttaccacc aatcatcctg 480  
atgaccagg tagatttctg tgtctccaac attctgaatc actattactg tgactatggg 540  
cctctcgtgg agcttgctg ctcagacaca agcctcttag aactgatggg catcctcttg 600  
gccgttggtga ctctcatggt tactctggtg ctggtgacac tttcttacac atacattatc 660  
aggactattc tgaggatccc ttctgcccag caaaggacaa aggccttttc cacttggttc 720  
tcccacatga ttgtcatctc cctctcttat ggcagctgca tgtttatgta cattaatcct 780  
tctgcaaaag aaggaggtgc tttcaacaaa ggaatagctg tactcattac ttcggttact 840  
cccttactga atcccttcat atatacttta agaaatcagc aagtgaaaca agctttcaag 900  
gactcagtca aaaagattgt gaaacttta 930

<210> 501  
<211> 305  
<212> PRT  
<213> Homo sapiens

<400> 501  
Met Glu Phe Val Phe Leu Ala Tyr Pro Ser Cys Pro Glu Leu His Ile  
1 5 10 15  
Leu Ser Phe Leu Gly Val Ser Leu Val Tyr Gly Leu Ile Ile Thr Gly  
20 25 30  
Asn Ile Leu Ile Val Val Ser Ile His Thr Glu Thr Cys Leu Cys Thr  
35 40 45  
Ser Met Tyr Tyr Phe Leu Gly Ser Leu Ser Gly Ile Glu Ile Cys Tyr  
50 55 60  
Thr Ala Val Val Val Pro His Ile Leu Ala Asn Thr Leu Gln Ser Glu  
65 70 75 80  
Lys Thr Ile Thr Leu Leu Gly Cys Ala Thr Gln Met Ala Phe Phe Ile  
85 90 95  
Ala Leu Gly Ser Ala Asp Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp  
100 105 110  
Arg Tyr Val Ala Ile Cys His Pro Leu Gln Tyr Pro Leu Leu Met Thr  
115 120 125  
Leu Thr Leu Cys Val His Leu Val Val Ala Ser Val Ile Ser Gly Leu  
130 135 140  
Phe Leu Ser Leu Gln Leu Val Ala Phe Ile Phe Ser Leu Pro Phe Cys  
145 150 155 160

Gln Ala Gln Gly Ile Glu His Phe Phe Cys Asp Val Pro Pro Val Met  
 165 170 175  
 His Val Val Cys Ala Gln Ser His Ile His Glu Gln Ser Val Leu Val  
 180 185 190  
 Ala Ala Ile Leu Ala Ile Ala Val Pro Phe Phe Leu Ile Thr Thr Ser  
 195 200 205  
 Tyr Thr Phe Ile Val Ala Ala Leu Leu Lys Ile His Ser Ala Ala Gly  
 210 215 220  
 Arg His Arg Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu  
 225 230 235 240  
 Leu Gln Tyr Gly Cys Cys Ala Phe Met Tyr Leu Cys Pro Ser Ser Ser  
 245 250 255  
 Tyr Asn Pro Lys Gln Asp Arg Phe Ile Ser Leu Val Tyr Thr Leu Gly  
 260 265 270  
 Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ala Leu Arg Asn Ser Glu Met  
 275 280 285  
 Lys Gly Ala Val Gly Arg Val Leu Thr Arg Asn Cys Leu Ser Gln Asn  
 290 295 300

Ser  
 305

<210> 502  
 <211> 918  
 <212> DNA  
 <213> Homo sapiens

<400> 502  
 atggaatttg tggttcctggc ctatccctcc tgcccagaac tgcattattct gtccttcctt 60  
 ggggtcagcc tgggtttatgg ttgatcatc actgggaaca ttctcattgt ggtgtccatt 120  
 cacacagaaa cctgtctatg cacatccatg tactatttcc tgggcagcct ttctgggatt 180  
 gaaatatgct acactgcagt ggtgggtgcc catatcctgg ccaacaccct acagtcagag 240  
 aagaccatca ctctcctggg ctgtgccacc cagatggctt tcttcattgc actgggcagt 300  
 gctgattgct tctccttggc tgccatggcc tatgaccgct atgtggccat ttgccacccg 360  
 ttgcagtacc ctctcctcat gacattgact ctttgtgtcc acttggttgt ggcattcagtc 420  
 atcagtggtc tggttcctgtc cttacaactg gtggccttca tcttctctct gccattctgc 480  
 caggctcagg gcattgagca cttcttttgt gatgtgccac cagtcatgca tgttgtttgt 540  
 gctcagagtc acattcatga gcagtcagt ctggtggcag ccatactagc cattgctgtg 600  
 cctttcttcc tcatcaccac ctctacacc ttcatagtgg ctgctctgct caagatccac 660  
 tcggctgctg gccgccaccg ggcccttctcc acctgctctt cccacctcac tgtgggtgctg 720  
 ctgcagtatg gctgctgtgc cttcatgtac ctgtgcccc a gctccagcta caaccccaag 780  
 caagatcggt tcatctcact ggtgtacaca ttgggaaccc cactgctcaa cccacttatc 840  
 tatgccctga ggaacagtga gatgaaagg gccgtaggga gagttcttac caggaactgc 900  
 ctttcccaga acagctag 918

<210> 503  
 <211> 295  
 <212> PRT  
 <213> Homo sapiens

<400> 503

Met	Gly	Gly	Phe	Gly	Thr	Asn	Ile	Ser	Ser	Thr	Thr	Ser	Phe	Thr	Leu
1				5					10					15	
Thr	Gly	Phe	Pro	Glu	Met	Lys	Gly	Leu	Glu	His	Trp	Leu	Ala	Ala	Leu
			20					25					30		
Leu	Leu	Leu	Leu	Tyr	Ala	Ile	Ser	Phe	Leu	Gly	Asn	Ile	Leu	Ile	Leu
		35					40					45			
Phe	Ile	Ile	Lys	Glu	Glu	Gln	Ser	Leu	His	Gln	Pro	Met	Tyr	Tyr	Phe
	50					55					60				
Leu	Ser	Leu	Phe	Ser	Val	Asn	Asp	Leu	Gly	Val	Ser	Phe	Ser	Thr	Leu
65					70					75					80
Pro	Thr	Val	Leu	Ala	Ala	Val	Cys	Phe	His	Ala	Pro	Glu	Thr	Thr	Phe
				85					90					95	
Asp	Ala	Cys	Leu	Ala	Gln	Met	Phe	Phe	Ile	His	Phe	Ser	Ser	Trp	Thr
			100					105					110		
Glu	Phe	Gly	Ile	Leu	Leu	Ala	Met	Ser	Phe	Asp	His	Tyr	Val	Ala	Ile
		115					120					125			
Cys	Asn	Pro	Leu	Arg	Tyr	Ala	Thr	Val	Leu	Thr	Asp	Val	Arg	Val	Ala
	130					135					140				
His	Asn	Gly	Ile	Ser	Ile	Val	Ile	Arg	Ser	Phe	Cys	Met	Val	Phe	Pro
145					150					155					160
Leu	Pro	Phe	Leu	Leu	Lys	Arg	Leu	Pro	Phe	Cys	Lys	Ala	Ser	Val	Val
			165						170					175	
Leu	Ala	His	Ser	Tyr	Cys	Leu	His	Ala	Asp	Leu	Ile	Arg	Leu	Pro	Trp
			180					185					190		
Gly	Asp	Thr	Thr	Ile	Asn	Ser	Met	Tyr	Gly	Leu	Phe	Ile	Val	Ile	Ser
		195					200					205			
Ala	Phe	Gly	Val	Asp	Ser	Leu	Leu	Ile	Leu	Leu	Ser	Tyr	Val	Leu	Ile
	210					215					220				
Leu	His	Ser	Val	Leu	Ala	Ile	Ala	Ser	Arg	Gly	Glu	Arg	Leu	Lys	Thr
225					230					235					240
Leu	Asn	Thr	Cys	Val	Ser	His	Ile	Tyr	Ala	Val	Leu	Ile	Phe	Tyr	Val
				245					250					255	
Pro	Met	Val	Ser	Val	Ser	Met	Val	His	Arg	Phe	Gly	Arg	His	Ala	Pro
			260					265					270		
Glu	Tyr	Val	His	Lys	Phe	Met	Ser	Leu	Cys	Thr	Ser	Asn	Ala	Leu	Pro
		275					280					285			
Asn	Tyr	Leu	Phe	His	Gln	Asp									
	290					295									

<210> 504

<211> 888



<212> DNA  
<213> Homo sapiens

<400> 504  
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gagatgaagg gtctggagca ctggctggct gcccttctgc tgctgcttta tgctatttcc 120  
ttcttgggca acatcctcat cctctttatc ataaaggaag agcagagctt gcaccagcca 180  
atgtactact tcctgtctct tttttctgtt aatgacctgg gtgtgtcctt ttctacattg 240  
cccactgtac tggctgctgt gtgttttcat gccccagaga caacttttga tgcctgcctg 300  
gccagatgt tcttcatcca cttttcctcc tggacagagt ttggcatcct actggccatg 360  
agttttgacc actatgtggc catctgtaac ccgctgcgct atgccacagt gctcactgat 420  
gtccgtgtgg ccacacaatgg catatccatt gtcacccgca gcttctgcat ggtattccca 480  
cttcccttcc tcctgaagag actgcctttc tgtaaggcca gtgtggtact ggcccattcc 540  
tactgtctgc atgcagacct gattcggtg ccctggggag acactaccat caacagcatg 600  
tatggcctgt tcattgtcat ctctgccttt ggtgtagatt cactgctcat cctcctctcc 660  
tatgtgtcctc ttctacattc tgtgctggcc attgcctcca ggggtgagag gcttaagaca 720  
ctcaacacat gtgtgtcaca tatctatgca gtgctgatct tctatgtgcc tatggttagt 780  
gtgtccatgg ttcatcgatt tgggagggcat gctcctgaat atgtgcacaa gttcatgtct 840  
ctttgtacct ccaatgctct acecaattat ctattccatc aagactaa 888

<210> 505  
<211> 310  
<212> PRT  
<213> Homo sapiens

<400> 505  
Met Asp Trp Glu Asn Cys Ser Ser Leu Thr Asp Phe Phe Leu Leu Gly  
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Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu  
20 25 30  
Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu  
35 40 45  
Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60  
His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys  
65 70 75 80  
Met Leu Val Asp Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly  
85 90 95  
Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys  
100 105 110  
Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn  
115 120 125  
Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu  
130 135 140  
Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met  
145 150 155 160  
Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His  
165 170 175  
Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Leu Ser Arg Ser Asp Thr

180	185	190
Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu		
195	200	205
Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser		
210	215	220
Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr		
225	230	235
Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu		
245	250	255
Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys		
260	265	270
Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu		
290	295	300
Lys Asn Lys Ile Leu Phe		
305	310	

<210> 506  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 506  
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 ccagagatga aagtgacctt atttgctgta ttcttggttg tttatatcat taatttctca 120  
 gcaaactctg gaatgatagt tttaatcaga atggattacc aacttcacac accaatgtat 180  
 ttcttcctca gtcactgtgc tttctgtgat ctctgctatt ctactgcaac tgggcccagg 240  
 atgctggtag atctacttgc caagaacaag tcaataacct tctatggctg tgctctgcaa 300  
 ttcttggtct tctgtatctt tgcagattct gactgtctac tgctgtcagt gatggccttt 360  
 gatcggtaga aggccatcat caaccctctg ctctatacag tcaacatgct tagcagagt 420  
 tgctatctac tcttgactgg ggtttatctg gtgggaatag cagatgcttt gatacatatg 480  
 aactggcct tccgcctatg cttctgtggg tctaatagaga ttaatcattt cttctgtgat 540  
 atccctctct tcttattact ctctcgctca gatacacagg tcaatgagtt agtggtattc 600  
 accgtctttg gttttattga actgagtacc atttcaggag ttttcatttc ttattgttat 660  
 atcatcctat cagtcttgga gatacactct gctgagggga ggttcaaagc tctctctaca 720  
 tgcacttccc acttatctgc ggttgcaatt ttccaggga ctctgctctt tatgtatttc 780  
 cggccaagtt cttcctattc tctagatcaa gataaaatga cctcattgtt ttacaccctt 840  
 gtggttccca tggtgaacct cctgatttat agcctgagga acaaggatgt gaaagaggcc 900  
 ctgaaaaaac tgaaaaataa aattttattt taa 933

<210> 507  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 507  
 Met Glu Val Lys Asn Cys Cys Met Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Ile Pro His Thr Glu Gly Leu Glu Met Thr Leu Phe Val Leu Phe Leu

20					25					30					
Pro	Phe	Tyr	Ala	Cys	Thr	Leu	Leu	Gly	Asn	Val	Ser	Ile	Leu	Val	Ala
		35					40					45			
Val	Met	Ser	Ser	Ala	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly
	50					55					60				
Asn	Leu	Ser	Val	Phe	Asp	Met	Gly	Phe	Ser	Ser	Val	Thr	Cys	Pro	Lys
	65					70					75				80
Met	Leu	Leu	Tyr	Leu	Met	Gly	Leu	Ser	Arg	Leu	Ile	Ser	Tyr	Lys	Asp
				85					90					95	
Cys	Val	Cys	Gln	Leu	Phe	Phe	Phe	His	Phe	Leu	Gly	Ser	Ile	Glu	Cys
			100					105					110		
Phe	Leu	Phe	Thr	Val	Met	Ala	Tyr	Asp	Arg	Phe	Thr	Ala	Ile	Cys	Tyr
		115					120					125			
Pro	Leu	Arg	Tyr	Thr	Val	Ile	Met	Asn	Pro	Arg	Ile	Cys	Val	Ala	Leu
	130					135					140				
Ala	Val	Gly	Thr	Trp	Leu	Leu	Gly	Cys	Ile	His	Ser	Ser	Ile	Leu	Thr
	145					150					155				160
Ser	Leu	Thr	Phe	Thr	Leu	Pro	Tyr	Cys	Gly	Pro	Asn	Glu	Val	Asp	His
				165					170					175	
Phe	Phe	Cys	Asp	Ile	Pro	Ala	Leu	Leu	Pro	Leu	Ala	Cys	Ala	Asp	Thr
			180					185					190		
Ser	Leu	Ala	Gln	Arg	Val	Ser	Phe	Thr	Asn	Val	Gly	Leu	Ile	Ser	Leu
		195					200					205			
Val	Cys	Phe	Leu	Leu	Ile	Leu	Leu	Ser	Tyr	Thr	Arg	Ile	Thr	Ile	Ser
	210					215					220				
Ile	Leu	Ser	Ile	Arg	Thr	Thr	Glu	Gly	Arg	Arg	Arg	Ala	Phe	Ser	Thr
	225					230					235				240
Cys	Ser	Ala	His	Leu	Ile	Ala	Ile	Leu	Cys	Ala	Tyr	Gly	Pro	Ile	Ile
				245					250					255	
Thr	Val	Tyr	Leu	Gln	Pro	Thr	Pro	Asn	Pro	Met	Leu	Gly	Thr	Val	Val
			260					265					270		
Gln	Ile	Leu	Met	Asn	Leu	Val	Gly	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr
		275					280					285			
Thr	Leu	Arg	Asn	Lys	Glu	Val	Lys	Thr	Ala	Leu	Lys	Thr	Ile	Leu	His
	290					295					300				
Arg	Thr	Gly	His	Val	Pro	Glu	Ser								
	305					310									

<210> 508

<211> 939

<212> DNA

<213> Homo sapiens

<400> 508

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atggagggtga agaactgctg catggtgaca gagttcatcc ttttgggaat cccacacaca 60
gagggggtgg agatgacact ttttgtctta ttcttgccct tctatgcctg cactctactg 120
ggaaatgtgt ctatccttgt tgctgttatg tcttctgctc gccttcacac acctatgtat 180
ttcttcctgg gaaacttgct tgtgtttgac atgggtttct cctcagtga cttgtccaaa 240
atgctgctct accttatggg gctgagccga ctcatctct acaaagactg tgtctgccag 300
cttttcttct tccatttctt cgggagcatt gagtgcttct tgtttacggt gatggcctat 360
gaccgcttca ctgccatctg ttatcctctg cgatacacag tcatcatgaa cccaaggatc 420
tgtgtggccc tggctgtggg cacatggctg ttaggggtgca ttcattccag tatcttgacc 480
tccctcacct tcaccttgcc atactgtggt cccaatgaag tggatcactt cttctgtgac 540
attccagcac tgttgccctt ggctgtgct gacacatcct tagcccagag ggtgagcttc 600
accaacgttg gcctcatatc tcttgtctgc tttctgctaa ttcttttatc ctacactaga 660
atcacaatat ctatcttaag cattcgtaca actgagggcc gtcgccgtgc cttctccacc 720
tgcagtgtc acctcattgc catcctctgt gcctatgggc ccatcatcac tgtctacctg 780
cagcccacac ccaaccccat gctgggaacc gtggtacaaa ttctcatgaa tctggtagga 840
ccaatgctga accctttgat ctataccttg aggaataagg aagtaaaaac agccctgaaa 900
acaatattgc acaggacagg ccatgttctt gagagttag 939
```

<210> 509

<211> 313

<212> PRT

<213> Homo sapiens

<400> 509

```
Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu
  1              5              10              15
```

```
Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro
              20              25              30
```

```
Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe
  35              40              45
```

```
Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys
  50              55              60
```

```
Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile
  65              70              75              80
```

```
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe
              85              90              95
```

```
Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met
  100              105              110
```

```
Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile
  115              120              125
```

```
Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser
  130              135              140
```

```
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro
  145              150              155              160
```

```
Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile
  165              170              175
```

```
Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala
  180              185              190
```

Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu  
195 200 205

Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr  
210 215 220

Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn  
225 230 235 240

Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala  
245 250 255

Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr  
260 265 270

Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu  
275 280 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val  
290 295 300

Leu Arg Ile Phe Phe Lys Thr Asp His  
305 310

<210> 510  
<211> 942  
<212> DNA  
<213> Homo sapiens

<400> 510  
atgcctatag ctaacgacac ccagttccat acttcttcat tctactgct gggatatcca 60  
gggctagaag atgtgcacat ctggattgga ttcccttttt tctctgtgta tcttattgca 120  
ctcctgggaa atgctgctat cttctttgtg atccaaactg agcagagtct ccatgagccc 180  
atgtactact gcctggccat gttggattcc attgacctga gcttgtctac ggccaccatt 240  
cccaaaatgc tgggcatctt ctggttcaat atcaaggaaa tatcttttgg aggctacctt 300  
tctcagatgt tcttcatcca tttcttcaact gtcattggaga gcatcgtatt ggtggccatg 360  
gcctttgacc gctacattgc catttgcaaa cctcttttgt acaccatgat cctcaccagc 420  
aaaatcatca gcctcattgc aggcattgct gtccctgagga gcttgtacat ggtcattcca 480  
ctgggtgttc tcctcttaag gttgcccttc tgtggacatc gtatcatccc tcatacttac 540  
tgtgagcaca tgggcattgc ccgtctggcc tgtgccagca tcaaagtcaa cattatgttt 600  
ggtcttggca gtatttctct cttgttattg gatgtgctcc ttattattct ctcccatatc 660  
aggatcctct atgctgtctt ctgcctgccc tctggggaag ctcgactcaa agctctcaac 720  
acctgtggct ctcacattgg tgttatctta gccttttcta caccagcatt tttctctttc 780  
tttacacact gctttggcca tgatattccc caatatatcc acattttctt ggctaatacta 840  
tatgtggttg ttctctccac cctcaatcct gtaatctatg gggtcagaac caaacatatt 900  
aggagagacag tgctgaggat tttcttcaag acagatcact aa 942

<210> 511  
<211> 312  
<212> PRT  
<213> Homo sapiens

<400> 511  
Met Ala Leu Gly Asn His Ser Thr Ile Thr Glu Phe Leu Leu Leu Gly  
1 5 10 15

Leu Ser Ala Asp Pro Asn Ile Arg Ala Leu Leu Phe Val Leu Phe Leu  
20 25 30

Gly Ile Tyr Leu Leu Thr Ile Met Glu Asn Leu Met Leu Leu Leu Val  
           35                          40                          45  
 Ile Arg Ala Asp Ser Cys Leu His Lys Pro Met Tyr Phe Phe Leu Ser  
           50                          55                          60  
 His Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Val Ile Val Pro Lys  
           65                          70                          75                          80  
 Met Leu Glu Asn Leu Leu Ser Gln Arg Lys Thr Ile Ser Val Glu Gly  
                           85                          90                          95  
 Cys Leu Ala Gln Val Phe Phe Val Phe Val Thr Ala Gly Thr Glu Ala  
                           100                          105                          110  
 Cys Leu Leu Ser Gly Met Ala Tyr Asp Arg His Ala Ala Ile Arg Arg  
           115                          120                          125  
 Pro Leu Leu Tyr Gly Gln Ile Met Gly Lys Gln Leu Tyr Met His Leu  
           130                          135                          140  
 Val Trp Gly Ser Trp Gly Leu Gly Phe Leu Asp Ala Leu Ile Asn Val  
   145                          150                          155                          160  
 Leu Leu Ala Val Asn Met Val Phe Cys Glu Ala Lys Ile Ile His His  
                           165                          170                          175  
 Tyr Ser Tyr Glu Met Pro Ser Leu Leu Pro Leu Ser Cys Ser Asp Ile  
           180                          185                          190  
 Ser Arg Ser Leu Ile Val Leu Leu Cys Ser Thr Leu Leu His Gly Leu  
           195                          200                          205  
 Gly Asn Phe Leu Leu Val Phe Leu Ser Tyr Thr Arg Ile Ile Ser Thr  
           210                          215                          220  
 Ile Leu Ser Ile Ser Ser Thr Ser Gly Arg Ser Lys Ala Phe Ser Thr  
   225                          230                          235                          240  
 Cys Ser Ala His Leu Thr Ala Val Thr Leu Tyr Tyr Gly Ser Gly Leu  
                           245                          250                          255  
 Leu Arg His Leu Met Pro Asn Ser Gly Ser Pro Ile Glu Leu Ile Phe  
           260                          265                          270  
 Ser Val Gln Tyr Thr Val Val Thr Pro Met Leu Asn Ser Leu Ile Tyr  
           275                          280                          285  
 Ser Leu Lys Asn Lys Glu Val Lys Val Ala Leu Lys Arg Thr Leu Glu  
           290                          295                          300  
 Lys Tyr Leu Gln Tyr Thr Arg Arg  
   305                          310

<210> 512  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

```

<400> 512
atggccttgg ggaatcacag caccatcacc gagttcctcc tccttggggt gtctgccgac 60
cccaacatcc gggctctgct ctttgtgctg ttcttgggga tttacctcct gaccataatg 120
gaaaacctga tgctgctgct cgtgatcagg gctgattctt gtctccataa gcccatgtat 180
ttcttctctga gtcacctctc ttttgttgat ctctgcttct cttcagtcac tgtgccaag 240
atgctggaga acctcctgtc acagaggaaa accatttcag tagagggtctg cctggctcag 300
gtcttctttg tgtttgtcac tgcagggaact gaagcctgcc ttctctcagg gatggcctat 360
gaccgccatg ctgccatccg ccgcccacta ctttatggac agatcatggg taaacagctg 420
tatatgcacc ttgtgtgggg ctcatgggga ctgggctttc tggacgcact catcaatgtc 480
ctcctagctg taaacatggg cttttgtgaa gccaaaatca ttcaccacta cagctatgag 540
atgccatccc tcctccctct gtcttctctt gatattctcca gaagcctcat cgttttgtc 600
tgctccactc tcctacatgg gctgggaaac ttctttttgg tcttcttatc ctacaccgt 660
ataatctcta ccattcctaag catcagctct acctcgggca gaagcaaggc cttctccacc 720
tgctctgccc acctcactgc agtgacactt tactatggct caggtttgct ccgccatctc 780
atgccaaact caggttcccc catagagttg atcttctctg tgcagtatac tgtagtcact 840
cccatgctga attccctcat ctatagcctg aaaaataagg aagtgaagggt agctctgaaa 900
agaacttttg aaaaatattt gcaatatacc agacgttga 939

```

```

<210> 513
<211> 5
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Consensus
      amino acid motif

```

```

<400> 513
Glu Phe Ile Leu Leu
  1             5

```

```

<210> 514
<211> 6
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Consensus
      amino acid motif

```

```

<400> 514
Leu His Thr Pro Met Tyr
  1             5

```

```

<210> 515
<211> 10
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Consensus
      amino acid motif

```

```

<400> 515
Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
  1             5             10

```

<210> 516  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Consensus  
amino acid motif

<400> 516  
Phe Ser Thr Cys Ser Ser His  
1 5

<210> 517  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Consensus  
amino acid motif

<400> 517  
Pro Met Leu Asn Pro Phe  
1 5

<210> 518  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Exemplary  
translocation domain

<400> 518  
Met Asn Gly Thr Glu Gly Pro Asn Phe Tyr Val Pro Phe Ser Asn Lys  
1 5 10 15

Thr Gly Val Val  
20

<210> 519  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 519  
Leu Phe Leu Leu Tyr Leu  
1 5

<210> 520  
<211> 9



<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<220>  
<221> MOD\_RES  
<222> (2)  
<223> a or g

<220>  
<221> MOD\_RES  
<222> (3)  
<223> y or f

<400> 520  
Met Xaa Xaa Asp Arg Tyr Val Ala Ile  
1 5

<210> 521  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA degenerate  
primer

<400> 521  
atggsctwtg accghtwygt

20

<210> 522  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<220>  
<221> MOD\_RES  
<222> (3)  
<223> g or a

<400> 522  
Thr Cys Xaa Ser His Leu  
1 5

<210> 523  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA degenerate

primer

<220>

<221> modified\_base

<222> (6)

<223> a, t, c, or g

<220>

<221> modified\_base

<222> (9)

<223> a, t, c, or g

<220>

<221> modified\_base

<222> (15)

<223> a, t, c, or g

<400> 523

agrtgnswns crcangt

17

<210> 524

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Degenerate  
primer

<220>

<221> modified\_base

<222> (20)

<223> a, g or p which can be the pyrimidine or purine base

<220>

<221> modified\_base

<222> (22)..(23)

<223> a, g or p which can be the pyrimidine or purine base

<400> 524

gggggtccgga grsrtadatn annngg

25

<210> 525

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Degenerate  
primer

<220>

<221> modified\_base

<222> (16)

<223> a, c, g or t

<220>

<221> modified\_base

<222> (25)

<223> a, c, g or t

<400> 525  
ggggctgcag acaccnatgt ayytnttyyt

30

<210> 526  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Degenerate  
primer

<220>  
<221> modified\_base  
<222> (20)  
<223> a, g or p which can be the pyrimidine or purine base

<220>  
<221> modified\_base  
<222> (22)..(23)  
<223> a, g or p which can be the pyrimidine or purine base

<400> 526  
gggggtccgga grstradatn annngg

25

<210> 527  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Degenerate  
primer

<220>  
<221> modified\_base  
<222> (16)  
<223> a, c, g, or t

<220>  
<221> modified\_base  
<222> (25)  
<223> a, c, g, or t

<400> 527  
ggggctgcag acaccnatgt ayytnttyyt

30

<210> 528  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Degenerate  
primer

<220>  
<221> modified\_base  
<222> (20)  
<223> a, c, g, or t

<220>  
<221> modified\_base  
<222> (22)  
<223> a, g, c, or t

<220>  
<221> modified\_base  
<222> (23)  
<223> a, g, c, or t

<400> 528  
gggggtccgga grstradatn anngg

25

<210> 529  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Degenerate  
primer

<220>  
<221> modified\_base  
<222> (16)  
<223> a, c, g, or t

<220>  
<221> modified\_base  
<222> (25)  
<223> a, c, g, or t

<400> 529  
ggggctgcag acaccnatgt ayytntttyt

30